No. 5[illegible]

United States
Circuit Court of Appeals
For the Ninth Circuit.

J. M. OWEN and J. L. BALES,

Appellants,

vs.

PERKINS OIL WELL CEMENTING COMPANY, a corporation,

Appellee.

Transcript of Record.
VOLUME 3
(Pages 993 to 1398 Inclusive.)

Upon Appeal from the United States District Court for the Southern District of California, Central Division.

Parker, Stone & Baird Co., Printers, Los Angeles.

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(Testimony of Alpheus J. Mercer.)

they were drilling out the cement in the bottom of the hole called the core. I presume I would have observed the fragments of a wooden plug drilled out from the well, if there had been any such put in in the cementing operation. I never saw any wooden plug drilled out of a Busch-Everett well during the contracting period, not during McCann's and Harper's operations.

Referring to the well that was a failure or unacceptable to the Busch-Everett Company and over which the McCann & Harper people lost the work of the Busch-Everett Company, my understanding of that well, Mr. Harper came to me and informed me that he was unable to get his casing back on bottom. They had tried to raise the casing with five lines and were unable to do so, and they took hold with seven lines after that getting two additional lines up. They got the casing up and the cement in the meantime, as I understand it, was set to such an extent that the casing would not go back on bottom. The purpose of raising the casing when they tried to raise it with five lines was to back the cement back of the pipe, after the cement had reached a point where it would circle; then they would lift the pipe up and down while they were pumping or while shoving the cement back of the pipe. I take it for granted that was after the cement had gotten to the bottom through the drill stem; I am only repeating what Harper told me.

MR. WESTALL: We move to strike out the answer as a whole on the ground that it is clearly hearsay.

THE WITNESS: Mr. Harper told me at the time and at the place, as a regular course of business of reporting to me the progress. I was in the field and he

(Testimony of Alpheus J. Mercer.)

came up and told me that they were unable to get the casing on the bottom, and I just told him that wasn't any of my business, that that was his duty, because he had contracted to finish the well on a 6-inch hole. He could not get the casing down on bottom in that well, and as a result there was salt water in the well. The cement didn't shut out the water. It was that job that resulted in McCann & Harper losing the drilling work for the Busch-Everett Company. Mr. McCann went to St. Louis to see the president of the company, because I refused to furnish him with a new string of pipe to drill another hole. He said he would drill another hole if we furnished him with new pipe. I told him we had furnished him with the pipe for that hole and that was all we would furnish. He came back from St. Louis. They told him in the meantime to come back and take the matter up with me, and I just told him his services were at an end.

I had quite a number of men in the field working with me, for Busch-Everett, during the years 1908 to 1912, when these wells were being drilled for Busch-Everett by Harper and McCann; I have forgotten the names of most of them. We had a man by the name of Rawley to begin with, from Illinois. He is now dead. Mr. Russell was with us; he came, I think, in 1910. I placed him in charge after Mr. Rawley had left. Then we had a Mr. Martin and Mr. McCamey and Mr. Doolittle, Mr. Doty and others. I can't recall all of them covering that period from the time we started until 1912, right at the close of 1912.

Q According to the best of your recollection and any information that you received at the time while you were

(Testimony of Alpheus J. Mercer.)

acting as general manager for the Busch-Everett Company in charge of the operations, the drilling of wells by McCann and Harper, were any plugs employed in the cementing of a well for Busch-Everett by McCann and Harper prior to October, 1909?

MR. WESTALL: I object to that as calling for hearsay evidence. The witness having already testified to facts showing his want of actual observation of methods in use at that time.

A None; there were none used prior to 1909.

Q State whether or not you would have known if such a plug had been used by reason of your responsibility for the drilling of the wells and your connection with the same.

MR. WESTALL: I object to that as calling for mere speculation on the part of the witness.

A It was my instructions to always keep me informed as to all that took place in the field. I think it is correct that when the plug was used by Garrett, as I have related, I was advised of that fact in accordance with my instructions. I can't give you the date when the cementing operation was performed in which plugs were used by Jack Garrett; it was probably along in 1910 or '11; I could not tell you. It was on the property known as the Busch-Everett fee 110 acres.

I have no interest whatever in the outcome of this case one way or the other.

ON

CROSS EXAMINATION

Mr. Mercer testifies:

At the present time I am just looking around for some opportunities to get hold of oil property and to develop

(Testimony of Alpheus J. Mercer.)

anything that looks reasonable. I am not connected with any oil company, and do not own any interest in any oil company at the present time. I have met Mr. Halliburton and Mr. Perkins in this case. I am not related in any way to them, and have no business connection at all with them. I could hardly tell you how they happened to get my name as a witness to testify in this case. Mr. Whitney met me in Steamboat Springs, Colorado, last July, I think it was, and told me that he would like to have my deposition, and at that time I believe I gave him an affidavit.

My final title at the time of my connection with the Busch-Everett Company was General Manager. I had a financial interest in the company at that time; it was 5% of the net profits; they were paying me a salary in addition to the 5%.

I could not say just what I was doing in January, 1912; I was on the inside of the company up to the close of 1912. I severed my connection with the Busch-Everett Company at the close of 1912, just about the very end. I could not be positive as to that date. I don't think it might have been 1913. I might be mistaken; I am quite positive it was 1912 when I severed my relations with them; I am sure it was not 1911. Prior to the organization of the Busch-Everett Company in Toledo, Ohio, that is, Mr. Everett and I were together as partners in Ohio previous to the organization of the Busch-Everett Company. In fact, I had been with Mr. Everett in the gas business in Ohio since along in '88 at the same time I was with the Columbus Gas Company. Then we separated and later on I met him again and we re-engaged

(Testimony of Alpheus J. Mercer.)

in the oil and gas line, and along in 1905, I think it was, or 1904, the latter part of 1904 or the beginning of 1905, I suggested that I go to Illinois; he agreed to it, so I went to Illinois, and had not been there long when he wired me to meet him at the Auditorium Hotel in Chicago. He then told me he would like to have Mr. Busch come in and join us, and I agreed to that right there, and Mr. Busch was taken in, and my interest was cut at that time from one-half to five per cent. The Busch-Everett Company was organized in 1905. It was a corporation. I went to work as general manager immediately upon its organization, in fact before, and was such until my relations were severed with the company.

I arrived at the base of operations near Shreveport in the fall of 1908. I wasn't in Shreveport probably more than half of the time. I was in the service of the company, running from one place to another. We secured a natural gas franchise to New Orleans that took me away some two or three weeks at a time, and then they would call me to St. Louis nearly every week or every other week, so that I was not able to give the field the attention I should have. I was on the road a good deal of the time, traveling around, rather than being right there watching the operations. I wasn't most of the time; I presume I was in Shreveport half of the time anyhow, because I had all bills to pay, paid all the salaries, bought all materials and employed all the men and everything that took place. I had charge of the office as well as the field.

I think that there were one or two of the depositions read to me yesterday that were taken in Shreveport in

(Testimony of Alpheus J. Mercer.)

this case. I think Mr. Doolittle's and Mr. Harper's, not Mr. George's. There may have been some others sketched over, but I have forgotten if there was.

Q Have you consulted any records or memorandums or letters, diaries, or anything of that kind before giving your testimony, to refresh your recollection as to dates?

A No, nothing more than reference to some of the wells that were drilled east of Vivian. Those wells were the Jolly wells, Pitts wells, and other wells that were drilled in that section. I saw copies of the logs. My recollection is no different from those logs as to the dates. I don't know who testified at Shreveport. I know a Crawford who was a contractor, but I do not know if it was J. R. Crawford. I know Walter George. In 1909 when we went in there in the beginning of the Busch-Everett operations, Walter George was one of the McCann & Harper drillers; that was in 1908 or 1909. I know Mr. W. C. Wolfe. He was contracting at that time; I know nothing about 1907, that was previous to my arrival there. I first arrived there the latter part of 1908. My connection with the Busch-Everett Company dated some years before that; I had charge of their properties from the inception. My base of operation before the latter part of 1908 was Illinois. I have no actual knowledge from my own observation of what was done down there during the year 1908. I could not tell you the month in 1908 I first went to that field near Shreveport; it was in the latter part of the year, I remember that. During the latter part of 1909 I was supervising operations of the company. I suppose I was in or near Shreveport in 1909 half of the time.

(Testimony of Alpheus J. Mercer.)

Since 1909 I have not had much experience in actually observing the cementing of wells, not outside of what we did there ourselves in Caddo Parish. Since that time I have paid no attention whatever to the cementing, in fact I might state that all of our operations along that line were left entirely with my field men, and it was their duty to see that the cement set properly and the casing was tight. Occasionally I would be in the field, and perhaps see them while they were getting ready to cement a well. I will just say preparing to cement a well, and I did see them lay cement into their drill stems as I have already stated, and make their swivel and pump their cement back of the pipe. That was the siphon system all together. The only time I ever saw the system used was in that field. I do not know the date; no, I could not tell you that. I was awfully busy—now, I could not say; I wasn't anticipating anything like this. I know one of the wells that I have in mind in particular, it was on this 110-acre tract, that I saw the cementing, on this 100-acre fee, but I don't know the number of the well; in fact I think it was a dry hole. When I said I think I saw them dumping cement in one or two wells, I had in mind in particular, as I told you, this one well on the 110-acre tract, and I think one was over on the Jolly tract. I could not tell you the number of the well on the 110-acre tract. It was southeast, the well was located southeast of No. 1 on the 110-acres. Now, the No. 1 well was located almost in the center of the 110-acre tract. McCann & Harper cemented those two wells. At the time I was present I do not remember who was there. McCann was there, or Harper was there in charge of

(Testimony of Alpheus J. Mercer.)

the well. Harper was at every well all the time that I was in the field. Whenever we were fixing a well Harper was there, always present. He was the real, practical man of the two. McCann wasn't considered practical. On those two wekks I saw them dump the cement in, make their swivel, and pump for perhaps maybe twenty or thirty minutes. They dumped the cement in their drill stem. In the Jolly well, I think that we put in in the neighborhood of 30 to 40 sacks of cement mixed with sand, about one-third sand and two-thirds cement, if I remember correctly. The same thing on the 110-acre tract well. The well on the 110 acres was 2200 feet deep—I could not give you the exact depth, but around 2200, and the Jolly well was about 1000 feet.

Q Now, the first time you remember having heard of the plug being used was the plug used by Jack Garrett, I believe you said, probably in 1910 and '11. Who told you of the use of such plug?

A Why, Mr. Russell, I believe, and Garrett himself. I visited the wells. I did not see them use the plug. I had this conversation with Jack Garrett right at the well. My recollection of one of the wells is that the cement failed to set and I, in a conversation with him, asked him how he had cemented it, and he told me he had used these plugs and that the cement was faulty and didn't set, so we lost the well through the water getting in there. It was after this happened that I discussed plugs with him, but previous to that Mr. Russell told me they would use plugs, in the cementing of those wells. I can't recall any conversation with Mr. Harper about the methods of cementing with plugs. I never knew of them

(Testimony of John H. Russell.)

using a bunch of cement sacks in a well, or a sack of shale or anything of that kind.

ON

REDIRECT EXAMINATION

Mr. Mercer testifies:

In the conduct of the affairs of the Busch-Everett Company, and the drilling of the wells for that company by McCann & Harper, I don't know that I ever had occasion to have Harper state to me what had been done on a particular well or a condition of the well, or representing as to what condition the well was in or how it had been handled, other than the well we had our trouble with where they sued us. Of course, he attempted to explain that as I have already testified to.

Q Were those statements that he made concerning what had been done on that well truthful and reliable?

MR. WESTALL: We object to that as being incompetent, irrelevant and immaterial, and not proper redirect examination.

A I didn't consider him trustworthy at all times.

MR. WESTALL: We move that the answer be stricken out as not being proper.

TESTIMONY OF JOHN H. RUSSELL, FOR PLAINTIFF.

JOHN H. RUSSELL,

called on behalf of the Plaintiff, duly sworn, testifies:

My name is John H. Russell. I reside in Shreveport. I am fifty-eight years old. I am in the oil business, and

(Testimony of John H. Russell.)

have been in that business I would say since '83. I first started in the business in Knapp Creek, Pennsylvania, topping for my father. The next place that I went to was Lima, Ohio, in '86. I had charge of a lease there for some people, I have forgotten their names now. I went from there to Signet, working for William Flemming, and from there back to Knapp Creek; from Knapp Creek to the Panhandle of West Virginia in charge of leases for Buzzle and Johnson. I was in the Corning field, at Corning, Ohio, interested there for myself, both in production and contracting; from there to Marietta, Ohio; Marietta to Robinson, Illinois; from Illinois to Louisiana in November, 1910, for Busch-Everett. Mr. Mercer was the general manager of the Busch-Everett Company at that time. I had known him prior to that time, socially and in a business way too, in connection with the oil business. I have been in the oil business all my life; my father moved to the oil country when I was about two years old, and I have always been there except when I was going away to school. I am fifty-eight at the present time.

When I went to Louisiana in 1910 for the Busch-Everett Company, I was superintendent of the company, having charge of the field work and production and drilling too. At that time Busch-Everett was drilling wells. Harper & McCann were drilling the wells that were being drilled for Busch-Everett. I attended to geting in the derricks and new pipe on the ground, and looked after them in a general way. I didn't have anything to do with the actual drilling of them. The well was under my charge when it was brought it. I was

(Testimony of John H. Russell.)

not there at the time every well was brought in, but most of the wells I was there; that was a part of my duties to be at the wells.

I remember a well that was drilled by McCann & Harper for Busch-Everett, known as the Levy Board well, on the lake along in December to April of 1910 or '11—December 1910 to April, 1911. I am not just clear on those dates, but it was about that time. I had the derrick built on that well, got the casing on the ground, got the cement and sand, and when the casing was set I went there to see if the seat was tight, if they had a good seat. The seat was leaking water. I think the well had been cemented. The cement was there and had been used. I wasn't at the well when they put it in. I could not tell what type of cementing operation was employed in cementing that well, only by supposition. I saw the well when they run the baile*d* and found that the casing was not tight and the water was not shut off. The reason for that was a bad cement job. I only know what Harper told me about the way the cement job was bad.

Q What did he tell you?

MR. WESTALL: We object to that as calling for hearsay testimony.

A He did not tell me when I went there to inspect the well; he told me after that, when I found that the casing wasn't tight, then he told me why. That was probably the next day. It was told to me as a part of the information that I was entitled to receive for Busch-Everett. He said they put the cement in the hole, they attempted to raise the casing with five lines and couldn't

(Testimony of John H. Russell.)

raise it. They pulled the bail off the swivel in trying to pull it, and then they put up seven lines, and they had to get another bail for the swivel; they raised the swivel up two or three feet, and it wouldn't go back.

I am not familiar with the siphon method of cementing a well.

Q Did you know at that time or did you understand at that time what method of cementing was being employed by McCann and Harper on the Busch-Everett wells?

A Well, my impression was that they were using a siphon system.

MR. WESTALL: We move to strike out the answer as being merely speculative and clearly hearsay evidence, or clearly based on hearsay, and incompetent, irrelevant, and immaterial.

THE WITNESS: In the siphon system they run their drill stem in the hole and put their cement in through the drill stem. I had never observed the cementing of any wells by Harper & McCann for the Busch-Everett Company prior to that time, and I did not subsequently. That was the last well they drilled.

Q Did you ever receive any explanation from Mr. Harper made to you as the field superintendent for the Busch-Everett Company at that time as to how he cemented a well?

MR. WESTALL: That is objected to as incompetent, irrelevant, and immaterial, and obviously is an attempt to lay a foundation for hearsay evidence which is incompetent.

Q BY MR. LYON: I am asking you for any explanation that Mr. Harper made to you of what he was

(Testimony of John H. Russell.)

using on the wells for which you were responsible, the explanation being made as a part of the regular operations of the Busch-Everett Company and McCann & Harper, drilling contractors.

MR. WESTALL: The question or suggestion is further objected to on the ground that it assumes something not testified to by the witness, namely, that any such conversation or information came to the witness as a part of the regular report of the contractors.

A I talked to Mr. Harper in reference to cementing wells and he told me that he put his cement in and the way he determined the cement was done was by the change of the color in the returns as they came up on the outside of the casing.

I have seen the plug method of cementing a well through the regular well casing frequently. The first time I saw plugs used was on a well known as the No. 4 on the 110-acres of Busch-Everett. Two plugs were used. That was in the spring of 1911. The rig at the time belonged to the company, Busch-Everett, and Jack Garrett was the driller in charge of it. The cement was not introduced through a drill pipe. On that well we run in some drill pipe to flush the water out of the hole, put in a plug, and then put our cement in on top of that plug, and then put another plug in and dumped it down through the casing,—through the 6-inch casing.

Q I will ask you to state, in the method of cementing a well employed by McCann & Harper on the Levy Board well which the claim arose over the attempt being made to lift the casing with five lines, what was the purpose of lifting the casing at all, if you know?

(Testimony of John H. Russell.)

MR. WESTALL: That is objected to on the ground that the witness has not been qualified to testify as an expert concerning matters of this kind, and on the further ground that the question is incompetent, irrelevant and immaterial, and further that it calls for a mere surmise, conjecture, and any answer will be plainly based upon hearsay.

A To permit the cement to be forced on the outside of the casing. From the fact that as a part of the cementing operation the casing was so lifted, I would say that it was the siphon method. Using the other method the casing is fed by pump when you start your cement in.

The No. 4 well on the 110 acres was not drilled by Jack Garrett directly for the Busch-Everett Company. He was an employee of the Busch-Everett Company, running a rig. The rig belonged to Busch-Everett and he was in their employ as driller in charge of the rig. I think the reason McCann & Harper were not employed to drill that well was that Busch-Everett refused to give them any more contracts after they finished that Levy Board well there.

Harper & McCann drilled Nos. 1, 2 and 3 wells on the 110-acre tract. They were drilled in the fall and winter of 1910 and '11. I was not present when they put the cement in any of those wells. I was present when Nos. 2 and 3 were drilled out. No wooden plug was drilled out of the wells.

Q Were you ever advised during the time that you were acting as field superintendent for the Busch-Everett Company and while the wells were being drilled for Busch-Everett by McCann & Harper that McCann and

(Testimony of John H. Russell.)

Harper were employing or knew of employing a method of cementing wells by use of a plug?

MR. WESTALL: We object to that as calling for hearsay, incompetent, irrelevant, and immaterial, and also subsequent to any pertinent date in this case, relating to facts subsequent to any pertinent date.

A No.

As field superintendent for Busch-Everett Company, no reports were made to me by Mr. Harper concerning the condition of the wells that McCann & Harper were drilling and the methods that were being employed or had been employed in the drilling of the wells; the only reports we got were as to depths. I would see Mr. Harper every day and would get the depth of the wells, sometimes from him and sometimes from the driller on the well. I don't know whether he made any representations to me as to whether the casing was tight or anything like that after it had been set. He would bail the casing, and then I would go over and have the bailer run to see whether it was tight or not.

Q Did he ever make any representations to you in regard to that, whether the well was tight or not?

MR. WESTALL: We object to that as incompetent, irrelevant and immaterial.

A Why, yes, he would tell me that he had bailed the casing and that it was tight. It was always my business to go and verify those statements from Mr. Harper. I found them to be true upon verification with the exception of one instance. They had bailed the casing that night and they said they would be through sometime after midnight. Our instructions were that they allow it to

(Testimony of John H. Russell.)

set until I got there in the morning, and I saw Mr. Harper that morning before I went out, and he said the casing was tight, but when I got out there I run the bailer several times and found it was not tight, and I reported it that way to the company.

ON

CROSS EXAMINATION

Mr. Russell testifies:

I started to work for Busch-Everett Company immediately upon coming to Louisiana in November, 1910. I came there for them, for that purpose. I continued to work for them as superintendent I think about twenty months. I think it was in July of 1912 that I left.

Prior to going to Louisiana in November of 1910 I had not had any experience in cementing wells, and had never observed the job of cementing. After going there I observed a job of cementing an oil well in December, 1910. It was on No. 2, I believe, on the 110 acres. We eventually drilled six wells on the 110-acres; five were drilled there while I was with them. The first well was drilled before I ever was on the lease, so I don't know of my own knowledge when it was drilled. The second, No. 2 and No. 3 were started at the same time, and they were both drilled in in the latter part of December, 1910, I think. I am sure about the date of November, 1910, as the time I went to Louisiana.

I did not examine any records, documents or memorandums of any kind to refresh my recollection before testifying to that date. I recall dates fairly well. I probably saw the cementing operation complete during the time I was employed there from November, 1910, to

(Testimony of John H. Russell.)

July, 1912, by Busch-Everett, and I remember distinctly the plug method was used on those two wells. I didn't pay any particular attention to whether the siphon method was used during that time or not. It is not a fact to my knowledge that during the time I was there plugs were used all or practically all of the time. That was not my understanding. I don't know from actual observation what methods were used in cementing those wells during that time except the two I spoke of.

Before testifying here I did not read any testimony that was taken at Shreveport in this case, nor did I have the substance of the testimony told to me. I have heard it discussed at Shreveport in a general way last summer that they were taking this testimony and that certain ones were up there testifying. I was not connected with any company that was interested in the matter last summer.

My business at the present time is oil; I am in the producing branch of the oil business now in Shreveport. I am interested with the V. K. F. Drilling Company, that is, Van Cleve, Kroneburg and Freedman. I own some worthless stock in some small companies.

Mr. Halliburton called me up yesterday morning and asked me to come up here; he didn't state why he wanted me to come over, just told me to come over. He discussed the matter with me in a general way last summer in Shreveport. He did not ask me to testify at the time you were taking depositions at Shreveport. I think we discussed that I had been employed by the Busch-Everett Company in 1910 to 1912. He did not ask me at that time to testify as a witness. I met Mr. Halliburton for the first time last summer.

(Testimony of John H. Russell.)

I have no interest in this process of oil well cementing and the Perkins patent that is involved in this suit. I have known Mr. Perkins a good many years and am a friend of his. I have no connection or relation with him; only as a friend; no business relations. I first became acquainted with him at Knapp Creek about 1883, or in the early '80's. Knapp Creek is in Cattaraugus County, New York. I saw Mr. Perkins in Shreveport last summer, and I saw him once about three or four years ago. I did not see him during the time of my employment or at any time from November, 1910, to 1912; I never saw him down there before that time. He never was there before 1910. I did not have any business relation with Mr. Perkins. When I first got acquainted with him he was a driller and possibly a contractor.

I don't think Jack Garrett described the method of cementing with two blocks when I spoke about this No. 4 well on the 110 acres, nor did he tell me why two blocks were used. That being the first time I had ever seen blocks used, it was a novelty to me, but I did not look into the method or inquire of Jack Garrett how he happened to use that method: I was not interested to know where that block method came from or how he happened to know of it. I did not know that it was not a new method and had been used before that.

Q As a matter of fact, you did not know anything about how wells were cemented before that time, at the time Jack Garrett showed this job to you?

A Well, that is the first one that I actually came in actual contact with. The reason I was there on this job was that it was the Busch-Everett's own rig and was part

(Testimony of John H. Russell.)

of my business to be there to see that the well was properly cemented. As far as my actual knowledge went, they may have used that method for five or six years before that.

Since 1910 and 1912 when I was employed by the Busch-Everett Company, I was employed by the Standard Oil Company for two or three years, and I was with P. J. White for several years, and I was district manager for the White Oil Corporation. I went to the Standard Oil Company in 1912, and was with them, I think, to about 1915, then I went with White; I was with White and the White Oil Corporation until 1921. I had entire charge of the White business the White Oil Corporation. I didn't come in actual contact with the oil well cementing. I did some with White, but not with the White Oil Corporation; my men attended to that.

Q When you were with the Standard Oil Company did you have any actual, personal observation and experience in oil well cementing.

MR. LYON. That is objected to as immaterial and irrelevant.

A Only I would be on the wells occasionally when that was done; I didn't have anything to do with the actual work.

ON

REDIRECT EXAMINATION

Mr. Russell testifies:

The two wells I was present at the cementing of were Nos. 4 and 5 on the 110 acres. Prior to those operations I had never known of any other method of cementing a well except what I have learned concerning the siphon

(Testimony of John H. Russell.)

method employed by McCann & Harper. I didn't have any information at all or knowledge that that method of employing plugs had ever been used before it was used by Jack Garrett: that was my first and only knowledge of it.

You can observe the remains of a wooden plug at the top of the well when the well is drilled out, flushed out, following the cementing system with the plug. I had an opportunity to observe the plug at the time the well was drilled out if one had been used in the case of any wells that were cemented by McCann & Harper for Busch-Everett. I did not see it.

ON

RECROSS EXAMINATION

Mr. Russell testifies:

When I say I had an opportunity to see the drilling out of a plug after cementing, I mean I might have seen it if I had been there on those jobs of cementing. I was probably at some of the wells after cementing and during the drilling out, but not all of them. At the one I was present it is true that the plug might have drilled out without my being actually present and observing it at the time it was drilled out. Even the wells that I was at, where I observed the drilling out, there might have been a plug drilled out without my knowledge.

ON

REDIRECT EXAMINATION

Mr. Russell testifies:

I was watching these wells drilled out, but I don't think that I ever took the cuttings to observe whether there was a plug in there or what the cuttings were.

(Testimony of J. Edgar Pew.)

Q Don't you think it probable if there had been a plug there you would have observed it?

MR. WESTALL: We object to that as calling for merely speculative evidence, surmise, conjecture, and not calling for a statement of the facts within the knowledge of the witness.

A Well, I would say not without taking some of the cuttings and washing them out. I did not take any samples from any of those wells for the purpose of noting whether there was any oil in the mud or fluid or what the condition of the cement was, or any of those things; I didn't examine that at all.

Q If you rely upon the change in the returns to determine when the cement reaches the bottom of a well, as described to you by Mr. Harper, and as testified by you, what type of a cementing job are you employing? Are you employing the plug operation? In other words, do you know what the plug is used for?

A Yes; it is used to determine when your cement is on bottom, as distinguished from just trying to time the operation or watching returns.

(Deposition of J. Edgar Pew, taken at Dallas, Texas, on the 11th day of February, 1925, received in evidence as Plaintiff's Exhibit 18, and the same is as follows:)

TESTIMONY OF J. EDGAR PEW, FOR PLAINTIFF.

J. EDGAR PEW,

called on behalf of Plaintiff, being duly sworn, testifies:

My name is J. Edgar Pew. My residence is Dallas, Texas. My age is fifty-four plus. I am vice president and manager of the Sun Oil Company; I am vice president and production manager. The Sun Oil Company

(Testimony of J. Edgar Pew.)

operates in Oklahoma, Arkansas, Louisiana, Texas and other places. I have been engaged in the oil and gas business since 1886. I went *went* with the Peoples Gas Company, which was apparently the Sun Company, originally in 1886; I was with the Peoples Gas Company until 1896; went with the Sun Company in 1896, and was with them until 1913. I was off a short time in the production business for myself, then I was vice president and general manager of the Carter Oil Company in their production department until 1917, and then came back with the Sun Oil Company, and have been with them since. I am now president of the American Petroleum Institute. Ex-officio as president of the Institute, I am chairman of a committee of the Institute which is conferring with and assisting a committee of four Cabinet members appointed by President Coolidge to make a study of the petroleum situation of the world.

I can identify the four page letter you hand me, dated November 26, 1909, addressed to Mr. J. W. Clark, Office. It is a letter I wrote to Mr. Clark, who was my superintendent in the Louisiana field.

MR. WESTALL: The letter is objected to on the ground, or the alleged letter, on the ground that it is obviously a copy, a carbon copy, and that it is not signed, and while the pertinence has not yet been disclosed, it is clearly not the best evidence for any purpose; it is also objected to as incompetent, irrelevant, and immaterial, and no foundation being laid.

THE WITNESS: This is a copy and was obtained from our files in the Beaumont office. It was written by me, written probably at the Shreveport office, to Mr.

(Testimony of J. Edgar Pew.)

Clark, who was in charge of the development work in that district, of the Sun Oil Company, the Sun Company at that time; it is the Sun Oil Company now. This is an original copy from the records of the office; it is the usual copy. No copies are signed to any letters that are generally put out by any office, so far as I know; certainly not in our office. There is no other original copy or original of this letter in existence that can be produced at this time that I can find. A search was made for this letter, and this is the letter that was in our files.

MR. WESTALL: We move that all the evidence regarding the copy be stricken out as irrelevant, immaterial and incompetent, and is calling for not the best evidence. Obviously the original letter would be in the hands of Mr. Clark and no proper explanation has been made of the absence of the original.

THE WITNESS: At the time of the writing of this letter Mr. Clark was Field Superintendent of the Sun Company, and any letters written to him were company correspondence. At the time this letter was written I was Manager of the Company in this district. The letter was written on the 26th day of November, 1909. I had been up to the field in northern Louisiana, where we were just starting to operate. I had been looking into the methods of their shutting off water, and studying the methods there used by other people. I came to the conclusion that those methods were not adequate, and tried to plan something that would do the work, they were not producing the result. I wrote this letter with instructions to Clark, giving him facts on what he should do on this first well we were drilling in that district. Following

(Testimony of J. Edgar Pew.)

of the hole, and I had my engineer, whose name at the time I think was Smith, make up a sketch according to a rough sketch that I drew, and sent it up to Clark to use.

MR. WESTALL: We move to strike out the answer as being almost wholly composed of hearsay evidence, and is irrelevant, incompetent, and immaterial.

THE WITNESS: It was sometime between this date, November 26th, and the time we cemented our first well, which was about the 20th of December, that I first thought of or hit upon this plug system of cementing a well. That was in 1909.

Q I will state to you that the defendant in this case has alleged in its answer that the plug system of cementing wells was employed by the Sun Oil Company in its wells in the Beaumont and Spindle-Top development period. What can you say as to that?

MR. WESTALL: We object to that as incompetent, irrelevant, and immaterial, and not proper rebuttal testimony, there being no evidence in the record relating to any such use as Spindle Top, and also as calling for not the best evidence.

A I can say we never cemented a well with the plug system prior to the wells on the Barr lease, which were commenced during and in November, 1909, and the first one of which was cemented around the 15th to 20th of December, 1909. The plug system of cementing wells is now being employed altogether by our company where we do any cementing. I think this plug method is practically indispensable if you do a good cementing job.

Q Do you know to what extent it is being employed generally by operators in the Mid-Continent field at this time?

(Testimony of J. Edgar Pew.)

MR. WESTALL: We object to that as not proper rebuttal testimony, and as incompetent, irrelevant and immaterial, the witness has not been properly qualified to testify to such an extent of use. What do you mean by Mid-Continent field?

Q BY MR. LYON: I will state the State in which you are operating, Texas, Oklahoma, Arkansas and Louisiana.

A To the best of my knowledge it is used altogether where they do rotary drilling, and as far as I know where they have any water trouble with cable drilling; we use it in our work.

At the present time the Halliburton Company is doing our cementing. Our rules for doing this cementing, and we did all of our own cementing up until, I guess, less than a year since, was to put in two plugs. We would put in one plug on top of the fluid a little below the top of the hole, and put in our cement, whatever quantity we wanted thoroughly mixed in the mortar, and then put in the other plug on top of this cement. The bottom plug used was a plug probably about two feet long, almost the full size of the pipe at the bottom, and for about six inches long, then drawn up at the top. We used a belting gasket to make plugs practically fit the pipes in order to make as nearly tight a joint as we could. Then we had another plug on top, the top plug, which was just a straight round plug, almost fitting the pipe, with the belting gasket on the bottom of it, and also to keep from diluting the cement which we thought would occur. The plan was to pump the bottom plug down to the bottom of the hole, raising the pipe just

(Testimony of J. Edgar Pew.)

enough to allow circulation. When the bottom plug would reach the bottom of the hole the cement would go out around the pipe on account of the taper of the plug; whenever the bottom plug had reached the bottom of the hole, the cement would commence to come up around the pipe. We would continue pumping until the two plugs came together, figuring that this would leave us purer cement immediately at the bottom of the hole on the outside of the pipe, and that there would be nothing left in the pipe excepting a little cement between the two plugs, and the plugs themselves, as soon as these two plugs came together, our pump would stop on account of the gasket formation forming a relatively tight joint. That gave us notice that the plugs were together and out cement was exactly at the point where we wanted it. We would then drop our casing to the bottom, leave our hole full of fluid and close the gate on the top to prevent any circulation and leave it stand for several days to permit the cement to set.

MR. LYON: We will now offer the letter of November 26th, 1909, which has been identified by the witness, as Plaintiff's Exhibit Pew Letter to Clark, and will also request the Notary or Reporter to copy the exhibit into the record at this point.

MR. WESTALL: We object to the receipt of the letter referred to on the ground that it is not the best evidence, no proper foundation having been laid for secondary evidence. It is incompetent, irrelevant and immaterial; and in view of the connection of the defendant company and the use of the Perkins process, of which Mr. Halliburton is the licensee, it is merely a self-serving

(Testimony of J. Edgar Pew.)

declaration. And the further objection is made that the instructions contained herein were never carried out and are incomplete, inasmuch as the witness says he gave other instructions later which superceded these.

(The letter referred to is as follows:)

November 26, 1909.

Mr. J. W. Clark,

Office.

Dear Sir:—

In drilling the well, or wells, if we drill more than one at Caddo, I want to be very particular that this work is done exactly in conformity with this letter. In case there should be any reason at any time where you should expect to change from this, I want you to shut down and take up with me the situation before you make any changes in these plans.

We want to set from 400 ft. to 500 ft. of 10″ and then set either 8″ or 6″ as we may decide to put well down to on top of gas sand. We want to set the 8″ or 10″ whichever it is, in cement, also the 6″ or 8″ in cement.

The first setting, that is, for the upper casing, we will find where we want to set the pipe, pull out, and pump not less than 25 SACKS of cement into the hole with the casing pulled up about 2 feet from the bottom. Mr. Cole will figure out for you the exact amount of displacement it will require before this cement reaches the bottom of the casing. I would arrange to pump this down through your 3″ running your 3″ to the bottom of the hole, packing around between 3″ and 8″ at top, so that you will know you are not on outside of hole, that

(Testimony of J. Edgar Pew.)

is, on outside of the outside of casing. The displacement to be figured, of course, will be the capacity of the 3″ pipe per foot multiplied by length of 3″ in the hole. Do this in such a way that practically all of our cement will be under your 8″ and in behind it. When you have your cement in, it will be pure cement mixed with water, you having a box made to mix this in, all at one time, and run your suction in so that you can pick it all up, you will then drop your casing and leave it set for two or three days, then run down inside and drill out core that will be left inside the pipe. I want you to study this carefully and see just how this cement sets in this hole with the time you allow it. Do not allow less than three days before which time you will not do anything toward trying to drill it out.

We will then go inside of this 10″ casing or 8″, whichever you use, I think it will be 10″ on the first hole, drill on down until we strike the gas sand or the strata just above it. My information is that we should get this at about 1050 feet. You can figure out the depths of the various wells around there, and find out just where they do get it. When you have the strata you want to set your 6″ on, get ready then to set your casing in cement again. In setting in cement at this time, I want you to use not less than 25 BARRELS of cement. Have a mortar box large enough to mix all of this at one time, and mix it in a box, not in a pit, I do not want there to be any clay mixed in it. We will get the best Portland cement Mr. Cole can get at Shreveport. We will run our 6″ casing into the hole to the bottom and raise it about two feet running the 3″ to a

(Testimony of J. Edgar Pew.)

point about one joint from the bottom. There will be a packer on the bottom of this 3″ as close to the bottom end of the 3″ as you can put it, the object being not to let the 3″ extend down into the core of cement that will be left in the 6″. The object of the packer being not to allow the cement to come up inside of the 6″ above one joint from the bottom of the 6″ and thus forcing it down to the bottom of the hole and up on the outside of the 6″. If to set this packer, it is required that we have some kind of an anchor, we can construct a piece of wood to go in under the packer so as to set it properly. It will leave this wood in there and we can drill it out easily, much more easily, much more so than we could a piece of pipe in the center of this cement.

My object in doing this exactly in this way is to make an absolute certainty that we have a wall of cement back of and under our 6″. Of course, as soon as you have finished pumping your cement into the hole, you will then drop your 6″ to the bottom and drive it a very trifle. Leave your 6″ then set. Do not attempt to run in to drill out the core inside of the pipe within before ten days.

Regardless of what anyone may tell you as to the method of setting this casing in cement, as I told you personally, I want these instructions exactly carried out and done so to a mathematical correctness as to figures.

I want you to have Mr. Cole, also you figure this out, and be there while you are doing this. You will understand that there has been a lot of trouble with water up there, the presumption being the water comes from below when the gas blew in. I have a theory that as

(Testimony of J. Edgar Pew.)

soon as this gas breaks in it disturbs this cement which has not been properly set and possibly the water comes from above, at least, when we finish our well, we want to know that we have taken proper precautions and then we will be able to judge the territory better by the results.

In looking after this well, I want you to do this yourself, all the time. I want you to stay right at Vivian every day the well is drilling and be prepared to go out there and spend the day or night any time. You will use two other drillers and not do the drilling yourself, but be in a position to be present. I want to see if we cannot absolutely make a success of the very first well we drill there, and this will depend largely on you. You can keep in touch with Mr. Cole there, calling him up every night, and any supplies you need he will keep you going. Also any communication with the office or any other instructions, you might want, you can get through him.

I would like also to hear from you by letter every day.

Select good, careful men and men that will do not any talking, and let us keep our business entirely to ourselves there.

Yours truly,

General Manager.

ON

CROSS EXAMINATION

Mr. Pew testifies:

Mr. J. W. Clark, to whom that letter is addressed, is now in Shreveport. That is where he lives; I don't know where he is today. He has no connection with our company at the present time. To the best of my knowledge

(Testimony of J. Edgar Pew.)

he has been at Shreveport continuously since 1909. I do not know when he severed his relations with my company. He severed his relations with the Sun Oil Company during the period I was not with the company, but sometime between 1913 and 1917, I am not sure when he did quit; I think sometime in that time. I know he was gone before I came back; he may have gone about the time I left, I don't recall at this time. At the time this letter was written he was field superintendent of the Northern Louisiana district for our company, and at that time I was manager of the production department of the Sun Oil Company. We had done a small amount of cementing prior to November 26, 1909, by dumping the cement in the bailer; that is the only cementing I ever knew of our company doing prior to this time. I couldn't tell you how many of those jobs I was actually present at and observed. We had very little of it; we didn't have much requirement for it at the time; it was not necessary at Spindle Top or Sour Lake, Batson or Saratoga, which were the fields we had been operating in, except in exceptional cases. I couldn't say whether I saw at least one or two of those jobs actually done. I might not prior to that time have actually seen any of those operations. I have seen operations, but whether we had any or not I don't know. Prior to November 26, 1909, we didn't do much cementing, very occasionally. So that prior to that time I can't say positively that I saw even one or two jobs of cementing, actually observed them, by any company.

Q Now, in other words, your actual experience in cementing operation was very slight; you depended con-

(Testimony of J. Edgar Pew.)

cerning your knowledge upon what you heard and what you had read, isn't that correct?

A Up to that time. Up to that particular time, November 26, 1909, I have been investigating conditions at Shreveport immediately before that, but the general operations we had never had occasion to do much cementing, up to the time the operation started in the northern Louisiana field.

In my investigation just prior to November 26, 1909, I rode all over the field with Mr. Clark. We were up against a condition there that we had not experienced in any other field, and that was a lot of water with our oil; and the question was whether or not that water was coming from the same sand as the oil, or whether it was coming from the casing or whether bottom water, but we investigated it and I saw that there was no cementing jobs that were excluding that water. We undertook to secure that. I looked at wells and talked with these various people that were doing this cementing work, McCann & Harper and the other companies that were operating in there, and saw the way they were attempting this water shut off, and concluded that was wholly inadequate, and that that might be the real cause of their water trouble. I couldn't say how long that investigation lasted; it could not have been very long, because it only took us two or three weeks. It would cover altogether not exceeding that time, because we were not up there operating prior to this time longer than that. I couldn't say how many wells I examined in that two or three weeks; I could not give you an approximation of it. I had been up there all summer off and on before we

(Testimony of J. Edgar Pew.)

commenced operating, and we were taking leases up there, and we were getting along on that kind of activity and no doubt observed a lot of work at that time; but I never gave it any intensive study until we started to operate, I know, ourselves. During this two or three weeks investigation I saw the wells and saw them cement wells. My judgment is I probably called on maybe as many as ten wells in our vicinity where they were working, where McCann & Harper and Busch-Everett crews were working. I couldn't name the lease now. I don't remember any of the leases; I don't remember the name of the lease except on our own operations. They were Busch-Everett wells. I don't know that they were all Busch-Everett wells. I imagine I investigated all of the conditions around the neighborhood where we were operating, that is, where we would have big water trouble; it was known as the shallow Vivian field. I don't know that of these approximately ten wells that I saw a single one cemented, but I had talked to McCann & Harper about the way they were cemented.

MR. WESTALL: In view of the witness's last answer, we move to strike out all the testimony of the witness as obviously having been based upon hearsay and not upon his own actual observation and knowledge.

THE WITNESS: The first well which was cemented for our company in which the plug system was used, a well on which they used two plugs, on the Barr lease in the Vivian District of Louisiana, was cemented sometime between the 15th and 20th of December, or approximately that time, in 1909. I got the idea of using plugs from studying the plans under which they were cementing,

(Testimony of J. Edgar Pew.)

and it occurred to me that the use of these two plugs would overcome those objections. My conclusions on my investigation was that the water—the way they were cementing them, it could not relieve that, and my efforts were to find something that would definitely show me that the cement landed at that particular point. I figured the two plugs would do that by the method I explained to you, and that would do nothing else but that, it couldn't help but do that. It would be indicated by the fact that the first or bottom plugs was setting on the bottom of the hole just below the pipe which had been raised; that the cement was all between the two plugs, and that as soon as the bottom plug had reached the bottom of the hole the cement would have to continue circulating around the outside of the pipe; as soon as the second plug got down and met the bottom plug there would be absolutely nothing but pure cement at that point, and from that point as far up on the outside of the pipe as the quantity of cement would permit, depending on this quantity. I would know when the top plug reached the bottom plug because the top plug had a packer on it, which would not permit the pressure fluid from the pump to get on the outside of it, whenever it reached the bottom plug it would stop and stop the pump; we couldn't work the pump at all after those two plugs came together.

In 1908 I was in the same business capacity with the Sun Company. Occasionally in 1908 we were trying to cement the bottom hole by dumping cement with a bail. I can't say positively that I saw any of those operations during 1908, but I think that I have seen them several times; I was in the field in all of the operations in South

(Testimony of J. Edgar Pew.)

Texas, excepting when I was away on vacations from probably two to a dozen times each week.

In the early part of 1909 I was in the same capacity with the Sun Company; my head office was Beaumont, Texas. I was operating in Spindle Top, Sour Lake, Saratoga, Batson and Dayton. I was directly in charge of the work; I would go to the field, one or the other of the fields, as many as two or three of them every week, and in different fields, I suppose I would get in contact with or in touch with the field by actually going out there to some of them several times each week.

Q Have you any distinct recollection of ever having seen a job of cementing of any kind during the year of 1909?

A Not until this cementing was done, I mean by us.

Q By any company?

A I said I looked into the cementing work. I think I did several jobs, I can't recall definitely at this time, up in that Vivian field, northern Louisiana. I have no distinct recollection at this time how these possible several jobs were cemented, that is, from actual memory. I was advised by my men who were in charge of my work, what was going on all around, and as a result of that we took our method—took this method of handling our own cementing work. I was actually present with them at the first well we cemented on this Barr lease, and observed the complete job. That was on the Barr lease, and No. 1 Well, I think it was; I was actually present at a number of the wells; in fact, I expect I was there at forty or fifty cementing jobs, subsequent to between the 15th and 20th of December, 1909. I think that job on the Barr

(Testimony of J. Edgar Pew.)

lease was a successful job, but it did not shut the water off for the reason we discovered that the water and oil was all in the same sand in that field.

Q So that from that discovery you found that it was not the method of cementing that had been theretofore employed, but from the fact that the water and oil were mixed?

A I think we had some improvement on our wells over the others; they all immediately followed and adopted our plans. The water that had caused trouble was in the oil sand, how much of it we improved I couldn't say, but we had better results with this method of cementing than they did with the other methods that they had there. I don't think we made any special report upon this first job of cementing on the Barr lease, or made any special comment upon this new method, because I was up there two days a week every week and was in personal contact with the foreman. I thought we had made a discovery there in cementing that was worth something. Since that time we have always continued to use two plugs to cement our wells.

Q Did you ever use one plug to cement a well?

A We may have in cases where we didn't think it was required; if it was it was because our superintendent or the man in charge did not explicitly follow instructions. Frequently you get a man that think they can do something in less time or something of that kind, and that the lines laid down are not necessary in their particular case; I was not at all of our cementing jobs but there were instructions in every case to cement with two plugs.

This method of cementing with plugs occurred to me sometime between November 26th and the time we ce-

(Testimony of J. Edgar Pew.)

mented this first well, which would be about the middle of December, 1909. My theory of the cementing was that the bottom plug would keep the cement from—it is heavier than the mud and would keep it from settling through the mud and going down and being diluted. Before that time we had cemented by dumping with a bailer. We may have cemented a well by pumping cement through tubing or casing directly on top of the mud without placing any plugs, pumping it down to the bottom of the well and up outside of the casing, but I was never present at any cementing like that of ours. I don't know whether that method of cementing would be successful or not; I don't think it could be as successful as this because of the element of uncertainty. The element of uncertainty in that would arise from two reasons: In the first place, your tubing would be filled with mud and your cement is heavier than mud, and it takes some time to get from the top of that tubing to the bottom of the hole, and it would settle probably a little faster than the fluid and would be diluted, and that was always my theory; and the second was to get your cement at exactly the bottom of the hole, and stop there, which could only be done by more or less rough calculation than any other manner. In using the term "tubing" I mean any kind of inside tubing.

Q Your idea is, if you pump cement through the casing right on top of the mud, that the cement would be diluted by the mud to such an extent as to be likely to impair the job of cementing?

A It would make the result at least more uncertain and the conditions under which we cement a well in a

(Testimony of J. Edgar Pew.)

rotary country, particularly, are such that the mud that you drill with is not only on the inside, but outside of the casing. That mud is sticking to the walls there, and there is bound to be more or less dilution. Anyway, we know that cement will stand only so much dilution and leave any binding qualities in it. I wanted to get the most perfect binding I could get. Nobody knows exactly what the conditions are down there.

Q Don't you know as a matter of fact they are cementing wells in California at the present time without any plugs, pumping the cement through casings on top of the mud without any barriers or plugs of any kind with as much success as with the plug system?

MR. LYON: We object to that, that is assuming a fact not having been testified to by the witness; a misstatement of facts and not proper cross-examination and irrelevant and immaterial.

A I don't know what they are doing in California. I have not observed very closely. I have never observed that method used here to my knowledge. Neither have I seen that done here excepting probably during this period which I suggested on the first investigation. I knew that was the only method in use over at this field.

It was sometime during the last year that our company discontinued cementing its own wells and employed Halliburton. We were notified by the Halliburton people that we were infringing on a patent and I took the position that we were not. I said that the cementing by the plug system was first done by me. I told that many times to many people, and have been told—have even told it out in California in a discussion of the matter out there

(Testimony of J. Edgar Pew.)

a year ago. I had not heard that they were using any plugs for cementing, and thought I had originated this system. When I came to look into it and give the dates as to the first cementing that we had done, I found that the Halliburton patent was prior to that time. Now, we had done a lot of cementing and we did not want to be in the position of infringing and accepting the liability that we might be under, so we made an agreement to quit cementing, and I took some stock in the Halliburton process. I own a small amount of stock, about $10,000 I think, I don't remember what it is, in the Halliburton Company. I am not very materially interested at the present time in having this Halliburton patent sustained; we haven't much stock. I hope it will be to our financial advantage, whether it will be or not, if the patent is sustained.

I could not say whether it was before the 26th day of June, 1924, when the testimony was taken at Shreveport, that this stock was taken and we employed Halliburton to cement our wells with the plug system, but I don't think we went into this thing until sometime last fall. I am sure of that. We had no license from the Halliburton people at all before this testimony was taken in June, 1924. We had ceased doing the work from the fear of liability, and for no other reason.

Q Did you have some contract or agreement with Halliburton or Perkins prior to this 26th day of June, 1924, when this testimony was taken?

A I don't remember the date, but I do know this, I contended almost up to the last that there was something wrong about this patent; I thought that my use of the patent was anticipated in their use anyway.

(Testimony of J. Edgar Pew.)

I do not own stock in this Halliburton Company individually. I do not, in the Halliburton process or in the Perkins patent. It may be in my name, I don't know whether it is or not, but I have not a dollar's interest except the Sun Oil Company; the Sun Oil Company paid for it. If it is in my name it is held in trust for the Sun Oil Company.

Q Now, isn't it a fact that during the time this testimony was taken in the latter part of June and the first part of July, 1924, requests were made of you that you permit the defendant Owen or his attorney or representative to examine the records of the Sun Oil Company at Beaumont?

A I don't remember; I don't know just what testimony you refer to.

Q I am speaking of the testimony that was taken about the Perkins Oil Well Cementing Company vs. Owen at Shreveport, beginning the 26th day of June, 1924, and which was being taken for some days, ending in the early part of July. Now, during that time isn't it a fact that I got in communication with you over the phone and your representative at Shreveport also called you up with a view of permitting our representative or a representative of Mr. Owen to examine the records of the Sun Oil Company at Beaumont?

MR. LYON: We object to that as incompetent, irrelevant, and immaterial and not proper cross-examination.

A As I remember, someone did call me up about something or other in connection with this, whether it was you or not I do not know, but if I refused to do

(Testimony of J. Edgar Pew.)

anything, and I don't remember whether I did or not, it was wholly on account of the fact that we had thoroughly gone into the matter and was satisfied that the patent antedated ours, and to go back through matters and a lot of records for fifteen or sixteen years was uncalled for, and was an imposition on our force which I didn't choose to submit to. I would not have submitted to it.

Q You remember it was explained to you in some of those conversations over the phone from Shreveport about the time we have last referred to, during the time of the taking of that testimony, that we had a witness who stated that he had used the plug system of cementing for the Sun Company at Spindle Top in 1905, and that he had made a full and complete written report of that method of cementing which was entirely successful, and that that written report was contained in the records at Beaumont; do you remember that information?

MR. LYON: We object to that as incompetent, irrelevant, and immaterial and not proper cross examination.

A I do not recall it, but I know there was not any plug system or any cementing done at Spindle Top in 1905 by the Sun Company. I don't recall what the claim made at the time was, but if it had been I would have considered it of no importance, because it didn't occur. I was directly in charge there.

Q You know from reports made by your employees at Beaumont that Mr. Bales went to Beaumont with the idea of looking at those records at that time, and that the employees were there instructed not to let him see any such records; isn't that correct?

(Testimony of J. Edgar Pew.)

MR. LYON: We make the same objection.

A I don't know that to be a fact, no, sir; if they wfre instructed not to dig into the records of 1905 it was wholly because of the fact that would have meant an examination of papers that nobody could have found probably in two or three weeks time. It would have been trouble that we were not under any obligations to go into, and it would not have brought anything out if it had. I know the facts. I did not look up those records of 1905 or 1906, because I knew the plug system was never used and never in any manner considered in our organization until I started it myself at this time.

Q Now, you have stated that after looking into the matter you decided that Perkins was prior to your time of invention of the plug method. What date did you think or did you decide that Perkins was entitled to as his date?

MR. LYON: That is objected to as incompetent, irrelevant, and immaterial and not proper cross-examination.

Q I call your attention to the patent, the date of the patent—

MR. LYON: The patent speaks for itself and it was applied for in October, 1909. The witness has testified that his knowledge of the plug system is not ahead of October, 1909.

MR. WESTALL: We object to counsel's statement in the record as attempting to coach the witness.

MR. LYON: That is not true. The patent speaks for itself. It is not necessary for the witness to state

(Testimony of J. Edgar Pew.)

the filing date of this patent. It is October, 1909, in evidence, completely sustained by the court.

A I have insisted all the time that I originated the two plug system; I did not know it was being used in California. When it was brought to my attention that there had been a patent applied for of the two plug system prior to the time I used it I was also told that I would have to show two years use of it prior to the time that the patent was applied for. I dropped the matter as far as trying to insist on our prior right to use it.

Q In other words, you had the impression given you by Halliburton that in order to defeat the patent you had to show that it was used two years prior to the date of application for patent?

A No, sir, that is not what I said. I said I would have to show two years prior use to the date of his patent, or his application, in order to be able to use the process or break down the patent, and my attorneys advised me to that extent. I don't know that I talked with Halliburton about it at all.

Q In other words, here is the date on the application, October 27, 1909; you were advised by your attorney that you would have to show use more than two years prior to that date?

MR. LYON: That is objected to for the same reason heretofore given.

A That was my idea and my understanding, yes, sir.

ON

REDIRECT EXAMINATION

Mr. Pew testifies:

In connection with my objection to the Perkins patent, I submitted the facts of what I had done and what evi-

(Testimony of J. Edgar Pew.)

dence I could have obtained to my attorneys for their opinion, and they advised me that in their judgment the Perkins patent was valid.

Q Do you know whether or not they investigated to see whether your recollection was correct that the plug system had not been used in Louisiana before its use on your Barr property No. 1 well?

MR. WESTALL: We object to that as calling for hearsay testimony, and as incompetent, irrelevant and immaterial.

A We had investigated the whole problem and I told them positively it had not been used.

MR. WESTALL: We move to strike out the answer as being obviously hearsay evidence and self-serving declaration.

Q Did they not independently investigate that fact also?

A They did, yes sir.

MR. WESTALL: We object to that answer and move it be stricken out as hearsay.

ON

RECROSS EXAMINATION

Mr. Pew testifies:

Q I want to ask you this question, Mr. Pew, the records of the Sun Oil Company there at Beaumont are still in existence?

MR. LYON: We object to that, that is not proper cross-examination.

A I think those for 1905 and 1906 are, I am not sure. I will qualify that in this way, of course some of our records are in existence, but whether or not the records

(Testimony of Arthur M. Stacy.)

of intervals and correspondence and records of field reports are in existence that long, I cannot say.

Q Would it really require very much work or time to find the records of the different wells at Spindle Top during say 1904, 1905 and 1906?

MR. LYON: We make the same objections.

A I couldn't say how long a time it would take, but I know it would take an awful lot of work. We have been doing a lot of work since 1905, and I would not undertake to do it for anybody unless I had to. I think it would take two or three weeks, to get that kind of a report, on account of the filing systems we had at those times, and I really doubt if those reports are still in existence. I don't know whether they are not. I have never made an examination, nor caused anybody else to do so back there.

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(646) (Deposition of Arthur M. Stacy, taken at Houston, Texas, on the 13th day of February, 1925, received as Plaintiff's Exhibit 19, and is as follows:)

TESTIMONY OF ARTHUR M. STACY, FOR PLAINTIFF.

ARTHUR M. STACY,

called on behalf of the Plaintiff, duly sworn, testifies:

My name is Arthur M. Stacy. I am 50 years old. At the present time I reside at San Pedro, Mexico. I am in the business of drilling water wells at this time. I have had experience in drilling oil wells. My first experience in that was in 1905 at Oil City, Louisiana. I was engaged in drilling oil wells in Louisiana from 1905 to 1916,

(Testimony of Arthur M. Stacy.)

and I worked three months in 1920 for the Texas Oil Company on Pine Island. My first work in drilling oil wells in Louisiana was on the Gilbert lease; Gilbert No. 2, in 1905. That least is just a mile and a half south of Oil City. I was employed by M. P. Cullinan, of Laredo, Texas, on that well. He is not the Cullinan who organized the Texas Company; that was his brother, "Doc." I was engaged in drilling that well right around two months, and then went to work for J. W. Jolly on the pipe line between Oil City and Shreveport, and was in that work right around three months. Then I went to work for the Texas Oil Company on Pine Island, and was there about two months. Pine Island is in Louisiana, near Oil City, about a mile and a half from Oil City. After I finished that well I went back to work for the Caddo Gas & Oil Company. I was time keeper and gager for them; they had some production on Pine Island. I worked for them about, I guess, well, it is a hard matter for a man to think that far back—a little over a year. Then I went to work for the Higgins Oil & Fuel Company roughnecking, and later on got a drilling rig. By "roughnecking" I mean working on a drilling crew, but not in the capacity of a driller. I was not a driller then. I got a rig later on.

I know the drilling firm of Harper & McCann. I worked for them in 1907, in the spring of 1907, on a well at Moringsport, about three miles from Oil City, this side. That was after I worked with Higgins. I left Harper & McCann when the well blew out at Moringsport. We had 600 feet of 8-inch casing set in that well; it was set in gumbo. We poured cement on the outside of the casing

(Testimony of Arthur M. Stacy.)

after the well blew out. That was the only method employed at that time.

I believe, as well as I can remember, I went to work for the Gulf as time keeper and gager in May 1908. I worked for them up from May, 1908 to I believe it was in February, 1909, and then I run a drilling rig for the Gulf. After I quit gaging I went to running a rig for them; in May, 1908, until February, 1909, I got a drilling rig with them. I mean I gaged for them from May, 1908, to February, 1909, and then got a drilling rig. I was made a driller for the Gulf Refining Company in the Caddo field in Northern Louisiana. I was a driller for them there from February, 1909, to the 6th day of January, 1912. During that time for the Gulf I drilled Ferry Lake 5, 7 and 9. They were right around on the edge, on the north side of the Lake at Moringsport. I believe Ferry Lake No. 5 was drilled in March, or the latter part of February, I could not say positively, in 1909. We set the casing on that well in gumbo. The well was not cemented. There was no well cemented in the field at that time. The result of that was we had salt water. We could not get any seat and pulled the casing in two. In other words, we could not shut the water off. None of the other wells that I worked on for the Gulf Company in 1909 and 1910 were cemented.

Harper & McCann used the siphoning method in Vivian in 1908 and 1909; Jack Garrett used the first plug I ever heard of being used in that field, in December, 1911, on the Jolly well, for Busch-Everett. Harper & McCann were drilling wells for Busch-Everett in 1908, 1909 and

(Testimony of Arthur M. Stacy.)

1910. They did not use plugs in the Busch-Everett drilling; only used the siphon system.

The first well I cemented with the plug was Ferry Lake 16 for the Gulf Company, along about the 23rd or 24th of December, 1911. Prior to that time the Gulf Refining Company had not been employing a plug that I know of. I would have known whether they had or not, because I was in the field all the time.

Q Under what circumstances did you learn of the cementing of the Ferry Lake well that you have referred to, with the plugs?

A Jack Garrett told me himself how he done it; he told me there was a new system called the California system.

MR. WESTALL: We move to strike out the answer, because it is obviously based entirely upon hearsay.

Q When did he tell you that?

MR. WESTALL: We object to the question as incompetent, irrelevant and immaterial, and obviously calling for further hearsay evidence, and any answer would be hearsay evidence.

A Three or four days after he cemented it, I was down at Oil City.

MR. WESTALL: And we move to strike out the answer.

Q Was Jack Garrett the only one that referred to this plug method of cementing as the California method?

MR. WESTALL: We urge the same objection as heretofore. The question is obviously calling for hearsay evidence, and we move to strike out any answer that the witness might give in response thereto.

(Testimony of Arthur M. Stacy.)

A It was known as the California method, is all I know about it. He said it was a new system in that field.

Q Prior to that time had you ever heard of any one using a plug in cementing a well?

A No, sir.

MR. WESTALL: We move to strike out the question and the answer for the reasons heretofore stated.

Q To what extent, if any, was that method adopted in the northern Louisiana field after it was used by Jack Garrett on the well you have referred to?

MR. WESTALL: We object to that; it would be incompetent, irrelevant and immaterial, and not proper rebuttal testimony, and too late in point of time to have any pertinence to any issue in the case.

A Everybody began to work to use it, after they found it a success, all the big companies, Standard, Texas Company—all the big companies.

Q Had any of them used it prior to that time?

A No, sir.

MR. WESTALL: We object to the testimony as being hearsay, and move to strike it out.

Q Would you have known of that method being used by Harper & McCann prior to this well you refer to?

A Yes, sir.

MR. WESTALL: We object to the question; it asks for a mere guess, surmise and speculation on the part of the—witness, and move that the question and answer be stricken out.

THE WITNESS: I would have known because Mr. Leroy Smith had me employed to give him the dope where the casing was set and how fitted up. He was with the

(Testimony of Arthur M. Stacy.)

Benedum & Trees Oil Company, of Robinson, Illinois. I wrote Mr. Smith a letter almost every day, giving him the information on each field, how deep the wells were, the formation and other information. I would report to him when the wells were completed, when the casing was set, and I made it a point to keep him advised on that.

Q Did you know how McCann & Harper were cementing their wells prior to that time?

A Yes.

MR. WESTALL: We object to the testimony as hearsay.

THE WITNESS: They were siphoning in. They were not using the plug system. Jack Garrett used the first plug ever used up there. I knew Hearne Harper personally. I worked for him a good while. I kept track of what he was doing in 1908, 1909 and 1910; I had to report to Mr. Smith.

In the northern Louisiana fields in 1908, 1909 and 1910, most all the wells when you brought in the wells would probably flow four or five hours and then go to water. When I started in in that field in 1905 none of the wells were producing oil. There were two gas wells; the Producers were running a rig and the American Well & Prospecting Company—four wells being drilled; just those in the field; one dry gas well, two blow outs, one dry gas blow out.

Q Did you ever talk to Hern Harper as to how he was cementing wells in 1908, 1909 and 1910?

A Yes, sir. I saw him nearly every day.

MR. WESTALL: We object to the testimony as hearsay, and incompetent, irrelevant and immaterial.

(Testimony of Arthur M. Stacy.)

A He told me he was siphoning.

Q Did he mention in any way using a plug at any time?

MR. WESTALL: We object as irrelevant and immaterial and incompetent, and calling for hearsay testimony.

A No, sir.

Q How long after Jack Garrett cemented the well to which you refer as being the first plug cementing job was that method known as the California method, and to what extent was it known as the California method in that field?

MR. WESTALL: We object; incompetent, irrelevant and immaterial, and too late in point of time, and calling for hearsay evidence.

A Well, everybody used it, you know, after Jack cemented the first well that way and it was a success. Jack Garrett started it; I don't know where he got the name of California method at all. It was referred to by others in the field as the California system.

I was well acquainted with Hern Harper; I worked for him.

Q What can you state as to his veracity, and what dependence can be put upon his word?

MR. WESTALL: We object; it is totally incompetent, irrelevant and immaterial.

A Well, I always thought he was about as big a liar as I ever saw.

MR. WESTALL: We move to strike out the answer.

A I worked for him and he still owes me $75 yet he has not paid.

(Testimony of Arthur M. Stacy.)

MR. WESTALL: We move to strike out that answer.

A I do not believe I can trust him; I would not believe him at all, because a man who would not pay his honest debts I have no use for.

Q Well, other than his paying that debt, what do you know about him?

MR. WESTALL: We object to the testimony.

A Everybody else knows what sort of a man he is; he won't tell the truth if he can get around it.

I have been familiar with the use of the plug system of cementing wells since I have been down in Miranda City, Texas.

Q What value would you say that system of cementing wells is to the oil drilling industry?

MR. WESTALL: Objected to as being irrelevant and immaterial and as calling for an opinion of the witness, and the further reason that the witness has not been qualified.

THE WITNESS: I have been drilling wells and in the well drilling business ever since 1911, and have been familiar with the use of the plug system, and I think it is one of the best inventions ever made. We could not get along without the plugs hardly; nearly impossible when you have lots of salt water.

The siphon method in use in 1908, 1909 and 1910 was never a success, because you never knew where your cement was and how your cement would be up in the casing.

I knew J. R. Crawford, sometimes called Slim Crawford, in 1908, 1909 and 1910. He run a rig for Billy

(Testimony of Arthur M. Stacy.)

Wolfe; roughnecked with him fifteen days. I was in touch with him these years; in the field all the time.

Q Do you know whether he ever used a plug in cementing a well prior to Jack Garrett's using one in 1911?

A No, sir.

MR. WESTALL: We object to the question and answer; calls for hearsay testimony, and move to strike it out.

A He did not use any. Jack Garrett used the first plug ever used up there.

I knew Walter George. I met him first when I went to work for M. P. Carpenter; he was a driller. He had a rig up in 1911, and I know how he finished his wells. He did not use any plug prior to Jack Garrett's using a plug in 1911.

MR. WESTALL: We object to the testimony; it is hearsay, and the witness has not shown himself qualified to testify to what Walter George may have done; we move to strike out the testimony.

I knew W. C. Wolfe—Billy Wolfe. Me and him worked together for Harper & McCann at that well. I knew him after that; we run a rig, contracting for Caddo Gas & Oil Company.

Q Do you know how he completed his wells or set his casing during the years up to Jack Garrett using the plug method?

A Yes, sir.

MR. WESTALL: We object; evidence called for would be hearsay evidence, the witness not having shown

(Testimony of Arthur M. Stacy.)

himself qualified to testify as to the facts inquired about, and we move to strike out the question and answer.

Q Did he use any plug in cementing a well prior to Jack Garrett's using the plug method in 1911?

A No, sir.

MR. WESTALL: Same objection, and same motion repeated.

THE WITNESS: Everybody set casing then in gumbo, you know, except for the siphon; Harper used the siphon system at Vivian in making those gas wells.

My work in those fields was of such a character and my acquaintanceship and meetings with those men I have named of such a character and nature that I would have learned or known of the cement method of plugging wells if it had been in use in 1908 and 1909 and 1910, because I was writing Mr. Smith every day, and I was talking to those various people, and met and talked about every well, how the casing was set and how completed, and I reported to Mr. Smith of Robinson, Illinois. The Benedum & Trees Company that I refer to sold their property in 1909 to the Standard Oil Company of Louisiana.

ON

CROSS EXAMINATION

Mr. Stacy testifies:

I did not hear of this suit of the Perkins Oil Well Cementing Company against J. N. Owen until last November. I met Mr. Richmond at Miranda, Texas; M. P. Cullinan sent me out there to see him. That was Mr. Henry Richmond, one of the attorneys from Los Angeles, associated with Mr. Lyon. Mr. Cullinan is president of the Border Gas Company of Laredo. Mr.

(Testimony of Arthur M. Stacy.)

Cullinan did not give Mr. Richmond a letter to present to me; he just told him where I was at, and where working, that I could give him the information that he wanted. I saw Mr. Richmond the 7th day of November, 1924. Mr. Richmond did not tell me about the testimony of Herne Harper and Walter George and Wolfe and Crawford that had been taken at Shreveport; just taken my testimony before a notary public. I made him an affidavit. He told me he might want to take my deposition again in a few months, and I had a letter from him in December, and he said probably it would be in February when he would want to take my deposition.

I cannot tell you the Spanish name of whom I am working for at the present time; I will show it to you. (Witness shows memorandum bearing name: Compania Perforadora, Nuevo Leon, Sa, Monterey, Mexico.)

In 1910 I was working for the Gulf. I worked for them from February, 1909, through 1910. I have some records from which I refresh my recollection about dates, —time books in my suitcase in San Pedro, which I look at every once in a while. That is where I have refreshed my memory as to these dates. The time book shows the time I went to work for the Gulf until I quit, and the different men I worked for, and the logs of my wells, and the names of the Ferry Lake wells I worked on. I did not bring that book along with me; I did not have any idea I would need it, but I can send it to you if you want it. I did not tell Mr. Richmond I had such a book. He did not ask me if I had any records of any kind whereby I could fix those dates.

I was at Miranda City at the time I gave this affidavit. That is this side of Laredo, about 45 miles. I did not

(Testimony of Arthur M. Stacy.)

have the book with me at that time. It was in my suitcase. I did not have it with me; it was in my suitcase. I did not make a copy of any entries from that book before I came up here to testify. That covers from February, 1909, to 1910. I have the record book from the Higgins Oil & Fuel Company also, covering I believe 1908 until along in May, until June. I also have a record book for the Coastal Oil Company. I worked for them in 1914. I have no others. The drillers always keep the time and the log of the well and they furnish their own books. I have those original books in my suit case, and the Higgins and the Gulf time books.

My first experience in drilling oil wells was in 1905 with N. P. Carpenter, roughnecking on the floor and helper on the rig. I continued as roughneck up until I got a rig with the Gulf in February, 1909. During that time I gaged for the Gulf Company in the Mid-coast oil field and kept time for them. I worked for the Gulf for several months up until February, 1909, as gager, and time keeper, from February, 1909, up until 1910. I believe I can give you the name of very near every well I worked on from 1905 up until 1910. Gilbert 1 was the first well, and Texas Oil Company, that was when I was with Carpenter; then I worked for the Texas Oil Company on Pine Island; don't know the number of the well; on Ferry Lake 5, Ferry Lake 7 and 9; Burr T. Curtis 2, and then when I worked for Higgins, Breathit No. 1, 2 and 3. I could not give you the exact time I worked on the first well mentioned unless I gave it out of my time book. On Gilbert 1 I was there about six days, with M. P. Carpenter. I started to work for him the 25th

(Testimony of Arthur M. Stacy.)

day of December, that is as near as I can get to it; then I worked for the Texas Oil Company on Pine Island; I don't remember the number of the well on the Browning lease. We worked on the well about sixty days; that was in 1906.

I went to work for Jolly and worked for Jolly on the pipe line, after I finished the well for the Texas Oil Company, right around three months; that was along in May, about the first of May, 1906, I went to work for Jolly, as well as I remember; then I went to work for the Caddo Gas & Fuel Company for a while, several months; then went to work for the Gulf, and went to drilling these wells in February, 1909. I gaged for the Gulf after I left the Caddo, up until 1909; then went on the Ferry Lake 5, worked three months to make a well. That was in February, 1909. Then I went to work on No. 7, I think it was in November, 1909. The next was No. 9 of the Gulf Refining Company, and I worked on it until February, 1910, and they sent me over to Burr No. 5 in Texas. I am giving just as near as I can the dates, but I can send you the time book, and give you all of it. I had no idea that you would want them at all or I would have brought it up here with me. I worked for Harper & McCann in 1907, two or three months, I don't remember just exactly how long; I have no time book of his that I worked for him, but along about the first of 1908 I went to work for the Gulf as time keeper and gager, up until February, and then took a drilling rig. During 1908 I worked for the Gulf. In 1908 I had a horse and went all over the field, gaging oil, running oil every day, all over the field, gaging and time keeping. I did not do

(Testimony of Arthur M. Stacy.)

any drilling in 1908; I did not get a rig until 1909; in 1909 I got around to the different wells; I went over the different fields that were producing oil. In February, 1909, I took a drilling rig, but I am talking about when I was gaging. In February, 1909, I was at Oil City every night; that is where the drillers and roughnecks met to talk about the different things, and where I got my information about the methods of cementing. During 1907 I saw a job of cementing prepared; Harper & McCann poured cement on the outside of the casing in Hostetter No. 1 well. I was not actually present at any other cementing job of any other well in 1907. I was not actually present on any job where cementing was being done in 1908, and the same in 1909. The only thing I knew was what Harper told me how he was cementing his wells. I did not see any in 1909 or in 1910. It was December, 1911, we cemented Ferry Lake 16, and that was the first time I observed cementing. I don't know except from what people told me how they were cementing wells in 1908 and 1909. I was writing Mr. Smith; he was paying me $150 a month to give him the dope on the field, and I made it my business to find out about these wells, how finished, and to give an accurate description. I did this by talking to the men in Oil City; that was our headquarters, where we all congregated.

Q Don't you suppose there might have been methods of cementing being developed that they did not tell you about, but kept to themselves?

A I don't think they would. If anyone had discovered they could use a plug or sack of shale or bunch of cement sacks for the same purpose indicated, I don't think

(Testimony of Arthur M. Stacy.)

it would be likely that they would keep that information to themselves and not tell anybody else about it; there was no secret; after we commenced using the plug system everybody used it. We always dropped a cement sack on top of the plug when we were cementing. I never heard of a sack of shale or bunch of cement sacks being used before this plug that Jack Garrett used in 1911, not in that field.

I have not read any of the testimony of the witnesses who testified at Shreveport in this case, or had any of it read to me, nor have I seen the testimony or had it shown to me.

I do not know W. A. Abney, Clifton F. Davis, Wesley Jordon or A. F. Powell.

McCann & Harper in 1908 and 1909 cemented in in Vivian when drilling there; that is what Herne told me; I did not see him cement any of the wells. I did not see any of the wells cemented at all by any of the men who testified in Shreveport, in 1907, 1908 and 1909, by any of the men whose names have just been mentioned, in any of those years. The first well we cemented was Ferry Lake 16, that I know anything about. I helped do that myself; and the second well was Curtis 2; that was the first wells I knew of where we used two plugs to cement with. The first plug I ever heard of was used by Jack Garrett; he was the first man. I know because he told me so himself. I did not see him use the plug. But he told me he used two plugs of cement, and went on and told me how he done it. The first well I ever saw was Ferry Lake 16 in December, 1911. I drilled a well in on the 6th day of January, 1912—about 16,000 barrels a day.

(Testimony of Arthur M. Stacy.)

That was when the Lake froze over. We made 60 feet of hole; I stayed out there 24 hours. The lake froze over, and when the day man went on I had two joints of pipe in the hole; the well blew in and flowed all day. That was the first well we used the cement plug. The Gulf might have used them before that, but that is the first one I knew about being cemented with two plugs. The Gulf might have used it before that, but I do not believe they did, because we made Ferry Lake 5 and 9 and had trouble in Ferry Lake No. 5, had salt water. I don't believe Walter George could have used it in 1908 or the middle part of 1909. I would have known something about it, me being in the field every day. I have been by several wells on the Jolly farm that Walter George drilled; the Jolly wells. I have used the siphon method myself in Curtis, Louisiana, in 1914. I drilled a well for my cousin, and siphoned instead of using the plug, because I did not have any plugs there, and I siphoned in. I drilled a well for old man Curtis 1100 feet. In siphoning you just run the pipe down in the hole and run the mud out—taking my casing—worked it up and down, and the cement being heavier than the mud it forced the mud out through my drill hole. I run my drill stem inside of my casing, before I went to set, then mixed my cement and poured it in the hole. I took the drill stem out, and then poured the cement in. Then I work my casing up and down until the mud comes out through the holes, and the cement being heavier than the mud the cement will go to the bottom of the hole; the mud comes on out; the cement will force this mud on the outside of your casing. I never used the siphon system after that; used the plug always.

(Testimony of W. D. Hicks.)

You get better results. Now, when I was plugging that hole I had about 40 feet of cement on the outside of my casing. When you use the plug system, you know, the plugs are on the bottom, but the cement is on the outside of your casing.

I worked for Harper & McCann right around three months, between two and three months. I was roughnecking, tool dressing, for them at that time. That was in 1907. About the first of 1908 I went to work for the Gulf as time keeper and gager.

MR. WESTALL: At this time we move to strike out the entire deposition of this witness on the ground that it is obviously based on hearsay, and is not proper rebuttal of any of the prior uses attempted to be proven in the testimony taken at Shreveport; the witness has shown that he was not present at a single one of the wells, nor did he even see the type of cementing during the time about which the testimony taken at Shreveport was given.

(Depositions of W. D. Hicks John N. Blount, Roger Canfield, I. H. Pitts, A. O. Smith, Fred Stone, John Bird, G. B. Bryant, and A. G. Kelly, taken beginning Monday, September 21, 1925, at El Dorado, Arkansas, received in evidence as Plaintiff's Exhibit 20, and the same are as follows:)

TESTIMONY OF W. D. HICKS, FOR PLAINTIFF.

W. D. HICKS,

called on behalf of the Plaintiff, being duly sworn, testifies as follows:

My name is W. D. Hicks. I reside at Queen City, Texas. I am thirty-nine years old. I am an oil and gas well driller. I first worked on a well drilling crew some-

(Testimony of W. D. Hicks.)

time between the 1st of September and December of 1908, at Caddo field, Louisiana, for the American Well & Prospecting Company; I was helping on a drilling rig. I continued for them in that field from 1908 until 1909, about April, I guess, as well as I remember. During that time I was working in the Caddo field in northern Louisiana. After leaving the American Well & Prospecting Company I went to work for D. C. Richardson on Pine Island on a drilling rig as helper. Pine Island is located in Caddo Parish, across Clear Lake from Oil City. I continued working on a drilling rig in that territory for Mr. Richardson about two months. Then I went to Madill, Oklahoma, and went to work on a drilling rig for W. P. Sturms. I worked for Sturms about two months in Oklahoma and Texas across the line from Oklahoma. Then I went to work for the Hugo Ice & Light Company as a lineman, at Hugo, Oklahoma, for about two months. Then I went to work for the Pioneer Telephone & Telegraph Company at Hugo for about a month. I didn't do anything from that time on until along about November, 1910, when I returned to Oil City and went to work as helper on drilling rig for American Well & Prospecting Company. Oil City is located in Caddo Parish, between Vivian, Louisiana, and Shreveport. I worked for them about a month, I should judge, as well as I know. I worked on one well for them on that occasion. I can not identify the well any more than that it was one of the Fowler Oil Company wells. Then I went to work for the Producers Oil Company as helper on a drilling rig on Levee Board No. 2, near Harts Ferry in Caddo Parish. I was a helper on a drilling crew in Caddo field in Louisi-

(Testimony of W. D. Hicks.)

ana from February 1, 1910, until 1911, and then I got a drilling job with the Producers Oil Company and worked as driller and helper on rigs at different times up until now. The Producers Oil Company and the Gulf was about the principal operators in the Caddo field when I first went there, from 1908 up until 1910. Mr. Canfield was drilling foreman for the Gulf at the time in 1909 sometime in 1911, as well as I remember. Will Robinson—I don't know what his initials were—and C. M. Cheshire were in charge of the drilling operations of the Producers Oil Company in that field in 1910. The Producers Oil Company were operating when I went there in 1908 and they operated as the Producers Oil Company, and it was sometime in 1912 that they and the Texas Company consolidated, I reckon, and after that the operations of the Producers Company were continued under the name of the Texas Company.

While working in the Caddo field in 1908, 1909 and 1910 I lived at Oil City. In 1908 and '9 they always set casing there on all the wells I worked on in gumbo for a casing seat, and afterwards where they failed to get a seat they used different kind of packers in order to shut off salt water caused by leaking casing. None of those wells were cemented to my knowledge. I helped on lots of those wells, and it looks like if cementing had been a common thing I would have known something about it.

Q What was the custom in that field in 1909 and thereabouts among the workers and operators in the field as to discussing with each other the methods being used to set a pipe to exclude water from the wells, to your knowledge?

(Testimony of W. D. Hicks.)

MR. WESTALL: Objected to on the grounds that the witness has not been shown to be qualified to testify to any general custom, and that no general custom has been shown, and is incompetent, irrelevant, and immaterial.

A Do you want to know what the discussion was as regards to that; is that what you mean?

Q First state whether or not there were such discussions and if so what opportunity you had to participate in the discussions and what they were.

MR. WESTALL: The question is further objected to as amended on the ground that it obviously calls for hearsay evidence, and is incompetent, irrelevant and immaterial.

A Nothing more than the discussion of making packers to shut off water caused by leaking casing. In some cases in that field there was trouble had in water getting into the wells due to an improper landing of the casing or pipe in the well.

Q To what extent was that discussed among the different operators and workers in the field, to your knowledge, at that time?

MR. WESTALL: Objected to for the reasons heretofore stated, and as incompetent, irrelevant, and immaterial, and apparently attempting to lay a foundation for the introduction of purely hearsay evidence.

A Well, nothing more than the common talk and discussion among the field workers and the company officials in regard to the best way of shutting off salt water by setting casing properly.

(Testimony of W. D. Hicks.)

I am at the present time acquainted with the plug method of cementing wells. My first experience in knowing of such a method was on Harrell No. 8 located at Monterey in Caddo Parish, Louisiana. I drilled nights on that well. I don't know just exactly the dates it was cemented by the plug method; it was sometime in September though, I believe, in 1911, as well as I remember. The Producers Oil Company drilled that well. The pipe in the wells that I had worked on for that company prior to Harrell No. 8 had been set in gumbo and usually getting a seat for casing without any cement. I never heard or knew of using the plug method of cementing in 1908 or 1909.

Harrell #8 was drilled in after casing had been set and the casing seat broke after the well was bailed in and bridged it off. We pulled the liner and plugged the reduced hole below the casing seat and hung the casing on 6-inch elevators and washed out from behind the casing, made a displacement for cement, put cement inside of casing and put plug in casing on top of cement, and followed the plug with drill stem, and pushed cement and plug down with same, and let set about four hours in order to let cement start setting to extent enough to not stick drill stem so plug would not float back and pull the drill stem out of hole. The plug was pushed down by the weight of the drill stem. That is the first cementing job that I ever did or helped do in the oil fields.

I didn't know of the plug method being discussed in the northern Louisiana field in 1908 and 1909, and the reason that I give my answer to that is because I didn't know of it. I didn't discuss any method of shutting out water at

(Testimony of W. D. Hicks.)

that time except using packers. I discussed that with oil field workers in general. I never heard any suggestion of using the plug method until I used it myself.

ON

CROSS EXAMINATION

Mr. Hicks testifies:

Q Who requested you or who first requested you to give an affidavit or notified you that you would be required to give your deposition in this case on this cementing proposition at this time?

A Well, Mr. Halliburton's man is all I know except the fellows I worked in the field with. R. B. Holland is the first man that asked me what I knew about it. He is an oil and gas well worker and driller who works in this field at the present time. He has no connection with Mr. Halliburton at all that I know of. He asked me when and what year I first heard of cementing a well with the plug by pumping it down with a pump. I told him that the first well that I ever helped cement with a plug and a pump was in 1912. That was a wildcat well that was drilled near Alden Bridge in Bossier Parish, Louisiana. The Producers Oil Company owned the well at the time it was started, but during this time, as well as I remember, the Producers Oil Company and the Texas Company were consolidated.

I actually saw a packer used for shutting off water from an oil well in 1908 or '9. The first well I worked on in 1908 was Mansfield No. 1; I didn't work on any well prior to that one in 1908. It was owned by the Mansfield Oil Company and drilled by the American Well & Prospecting Company. They shut off the water in that well by

(Testimony of W. D. Hicks.)

setting the casing in gumbo and getting a casing seat. They drill down until they find a seat in good, hard, tough gumbo, and when the gumbo is sufficiently hard to make a seat a casing shoe is put on the bottom of the casing and the casing set on bottom.

I did not work on any other wells in 1908; just that one. I worked on that Mansfield No. 1 well for the American Well & Prospecting Company from sometime in September until Christmas. Luther Nell was the driller. Oscar Howard, Fred Neeley and A. Trammell also worked on that well. I know the night driller's name was White, and that's about all I do know.

I don't remember just when I first heard of this present suit in which I am testifying. The first that I ever knew of or saw done was this cementing by Mr. Halliburton at Duncan, Oklahoma, in 1921. It seems to me I first heard of this particular suit about a year ago, as well as I know now. I did not come from Queen City, Texas, here to testify. I have been in this oil field since August, 1921. I came to testify in this case from down at the Randolph Hotel. I have been around there for about two weeks. I came to the Randolph Hotel looking for work. Mr. Halliburton did not advance a cent to pay my expenses to come to the Randolph Hotel. This morning is the first that I knew I would be called to testify in this case. I was not told before that I would be called in to give my deposition. Mr. Halliburton or no one explained to me anything about the history of this litigation. I understood there had been a suit filed against the Standard Oil Company, but I didn't know to what extent. I never talked with anyone about this suit or about the use

(Testimony of W. D. Hicks.)

of the plug method since I first gave my affidavit, and I didn't discuss any of the possible interests on the other side of this suit. Mr. Halliburton didn't tell me that the Standard Oil Company had settled the suit for three million dollars and had made an agreement that if the defendants do not win they will pay $75 for each well that is cemented. He didn't explain that if Halliburton wins this suit all cementers down in this field who want to come in under that arrangement will pay him $75 for each job of cementing, and that the object and advantage that he has of winning this suit is that he will receive from every job of cementing in this field $75 per well. He didn't explain to me that all cementers and all the operators in this field who want to cement their wells will have to pay him $75 a well. He didn't tell me that many of the old cementers and contractors in Shreveport in 1908 and 1909, in fact all the contractors had testified in this case that the plug had been used in 1909, but I have heard that there has been such testimony made. I did not read any of this testimony of any of the contractors. Mr. Halliburton hasn't advanced me one cent in no way for my trouble or time, and he did not promise me employment if I testified. At the present time I am not employed.

Before testifying in this case or before giving Mr. Halliburton my affidavit I did not consult any memorandum of any kind or any records to enable me to fix the dates that I have testified about. Those dates are just from my unaided recollection. I never heard of a job of cementing by the use of a plug or a sack of shale used as an indicator until 1912.

(Testimony of W. D. Hicks.)

I am positive I first worked on a drilling crew between the first of September and December, 1908. I could not be mistaken in a few months. The reason why I know I am so positive of the dates mentioned is that I came to Oil City just before the president's election of 1908, and was at Oil City at that time.

The first well I worked on in 1909 was for the May Oil Company, from January until March. I don't know what the name of the lease was; just the May Oil Company No. 1. The well was located between Oil City and Mooringsport, Louisiana. In 1911 I worked on Lane-Levee Board Well No. 1 near Oil City, on James Bayou. I worked as a helper on that well. I was a helper most of the time from 1908 on my first well until 1911, except what little bit of work I did outside of the oil field, and that wasn't much. I believe it was December, 1910, up until January, 1911, I worked on Lane-Levee Board Well No. 1. The next well I worked on in 1911 was one of the Russell wells. I don't remember just what number it was. That was near Lane-Levee Board No. 1 near Oil City. I worked on the Russell well along in February and March, I believe it was in 1911. I also worked in 1911 on a well known as Finnegan #1 located near Oil City, along in May, June and July, 1911. I did not work on a well between the Russell and the Finnegan No. 1. I was not out of employment; I was working on them wells, moved from the Russell lease to the Finnegan. I worked on Russell 4 after leaving Finnegan #1. Russell 4 was near Oil City and near Lane-Levee Board #1. I worked on Russell #4 along in July, I believe it was, and August, as well as I remember.

(Testimony of W. D. Hicks.)

In 1909 after the May Oil Company well I worked for D. C. Richardson; I don't know the name of the well or the lease. It was in May and June, I believe, in 1909, that I worked on the Richardson well. I wasn't there when the well was completed, and don't know if they shut off the water or not. I don't know what method they used. That well was located on Pine Island, across Clear Lake from Oil City.

I worked on other wells during 1909 in Oklahoma. I went to Oklahoma in June, I believe, in 1909, and stayed there from June until December. I came back to Caddo field in December, 1909, and went to work for the American Well & Prospecting Company on one of the Fowler wells near Oil CITY, on the old Mooringsport road between Oil City and Mooringsport. They set 6-inch casing on that well and didn't get it on bottom; then they set a string of 4½-inch casing and set in gumbo and got a water shut-off. That was the American Well & Prospecting Company. The only two wells I worked on were the May Oil Company well in March, 1909, and the Fowler well in December, 1909. On the May Oil Company well they didn't use any method to get the water shut off except they set the casing in gumbo. I know positively that they did that with the May Oil Company well, and also in the Fowler well in December, 1909. That is the only way that they ever made a seat in 1908. I saw that method used on one well in 1908 of my own knowledge.

Q And how many did you actually see that method used on in 1909?

A I can't recall exactly the number of wells that I worked on.

(Testimony of W. D. Hicks.)

Q I thought you said you knew positively you worked on the May Oil Company well in the early part of 1909 and one of the Fowler wells in December, 1909.

A I also stated that I worked for D. C. Richardson in May, 1909. Those were the three wells that I worked on, namely, the May Oil Company well in the early part of the year and then in May and June, 1909, the D. C. Richardson well, and in December, 1909, the Fowler. That method is all I saw during that time on those three wells I worked on in Louisiana in 1909. I did not see any other jobs of shutting off water in 1909 than at the three wells I have mentioned.

I knew of the contracting firm of McCann & Harper. I didn't know anything of what they were doing in 1908 and '9, that is, I didn't work for them. In 1910 I was at Oil City, Louisiana, during the entire year. The first well I worked on in 1910 was for the Producers Oil Company, Levee Board #2, in January and February, I believe. Then I worked on Hunsicker, located on James Bayou in Caddo Parish near the line of the State of Texas. I also worked in 1910 on Mason No. 3 at a place known as Stacy's Landing. It must have been in June and July and August, I reckon. After that I worked on Levee Board #14, at Stacy's Landing, sometime in August and September. Then I worked on Lane-Levee Board #1 from November and December, 1910, until January, 1911.

Before testifying I have not refreshed my recollection by looking at any logs of wells or any dates of any kind, or any maps or charts or locations of wells. All my testimony is based upon my recollection of what passed during them years. I never heard of cementing by the use

(Testimony of John N. Blount.)

of a sack of shale until right lately, the last week or two, more than putting a sack of shale on top of a plug. I never heard of the use of a sack of shale in place of a plug in cementing in 1909; didn't know of any cementing at all at that time. I didn't know of the use of cement at that time, more than pouring cement on the outside of surface casing. I did not hear that method discussed in 1908. I did not hear it discussed in 1909 more than just what I used on a well or two that I helped drill. As far as I know, cement was not used in securing water shut-offs in cementing casing. 1911 and '12 was my first knowledge of any such use of cement for cementing casing to shut off water. I worked as a helper on a drilling rig from 1908 until 1911, and a little later got a job drilling from the Producers Oil Company.

When I was first asked to give my affidavit in this case I was down on the streets at the Randolph Hotel in El Dorado. Mr. Lyon, I reckon, drew up my affidavit; it was a week or two ago—ten days ago, I guess.

TESTIMONY OF JOHN N. BLOUNT, FOR PLAINTIFF.

JOHN N. BLOUNT,

called on behalf of the Plaintiff, being duly sworn, testifies:

My name is John N. Blount. I live in El Dorado. I am 43 years old. I am an oil field worker, in drilling wells. I first started work on a well drilling crew in the fall of 1907 in Pine Island near Oil City. That is in the Caddo field of northern Louisiana. I went to work for

(Testimony of John N. Blount.)

the American Well & Prospecting Company at that time. I worked there in the Caddo fields from the fall of 1907 to the spring of 1914. The first well I worked on for the American Well & Prospecting Company was drilled for D. C. Richardson Oil Company—D. C. Richardson, in the fall of 1907, in Pine Island, about four miles east of Oil City, in Caddo Parish, Louisiana. There was no attempt in the drilling of that well to land pipe to shut out water. The way they set casing there, they set the 4-inch drill stem. They set it with a bit and went in then through the drill stem and milled the bit off, and then drove the four-inch casing. No cement was used. That method didn't hold. It was a good well for about two hours, and then water broke in, and it made 90 per cent water, and they drove it again and it shut the water off for an hour or two again.

I worked for that same outfit, the American Well & Prospecting Company, the next spring then up until along in June of 1908. The second well I worked on was also a Richardson well. They set the pipe in gumbo and drove the casing to shut off the water in that well; no cement was used. It held about 24 hours after the well came in and then water broke in.

The next well was for Benedum-Trees on Pine Island, north of Oil City. That was in the summer of 1908. They set two strings of casing—set 6-inch and went in and bailed the casing dry, and it held, and then they set a string of 4½ inside of that.. They had had so much trouble there on the Island to make the casing hold that they set that string of 4½ inside the 6-inch, and it held. No cement was used. That was a producing well.

(Testimony of John N. Blount.)

The next well I worked on was for the same company, about one mile east of that. That was in the early fall of 1908. They attempted to shut out water in that well by just setting the casing in gumbo. The casing held, but they got a dry hole, the well didn't produce oil; no cement was used.

Then I went back to work for D. C. Richardson, on an offset to one of the former wells that I had drilled for him. That was along in the winter of 1908. They attempted to shut out water in that well by setting in gumbo. No cement was used. It didn't hold and the water broke in.

Then I went to work on another well for D. C. Richardson offsetting that one. That pipe was set in gumbo; no cement was used. The casing held, but they got a dry hole—no producer. That well was drilled along in the spring of 1909.

Then I moved back over on the west side of the lease and drilled another well for D. C. Richardson, in the spring of 1909. The casing was set in gumbo and it didn't hold. We drove it and it didn't hold again.

Then I went to work on another well for the same company offset north to that. That well was not cemented. The pipe was landed in gumbo. We bailed the casing dry and it held until we drilled the well in and it was a good well, I guess, for about a day and then it went to making water.

The next well I worked on for the same company about five miles north, a gas well, along in the fall of 1909. That was east of north from Oil City. The casing was set in gumbo with a rope packer on the bottom. No

(Testimony of John N. Blount.)

cement was used. The casing held and the well produced gas. That was in the fall of 1909. I continued to work on drilling crews in the northern Louisiana field from that time on until 1914. I can name some of the parties I worked for after that in 1909 and in 1910 and 1911. In the winter of 1909 I worked for the Sun Oil Company east of Vivian; that was in January, 1910; I worked for Billy Wolfe east of Vivian. That was when I worked on the Sun Oil Company well. I think that was the Barr lease. I believe Barr #1. I never heard of any wells being drilled by the Sun Company in northern Louisiana before that Barr well. I don't know that that was the first one, but that was the first one I knew of. Ollie Shockley was the day driller. Jim Clark was in charge. I don't know how they set the pipe in that well. The day crew set casing, and I was working nights, and they laid the night crew off so I don't know how they set the casing.

Then I went to work for Billy Wolfe. Fred Kyle was the driller. I don't know the name of the well. It was south of the Sun Company lease there about three miles. I don't know what lease. That must have been along in Christmas and January. I remember it was mighty cold weather. I mean January, 1910.

After that well I went to work for the Benedum-Trees Oil Company at Harts Ferry, Louisiana, in the spring of 1910, on Stiles #5 well. They set the casing in that well in gumbo. No cement was used.

Then I went to work for the same company on Stiles #11. The casing on that well was set in gumbo; no cement was used. That was along about April or May, 1910.

(Testimony of John N. Blount.)

When I went to work for the same company on—I won't be positive whether it was Jeff Hart #1 or A. Hart #1. The casing was set in gumbo. The casing didn't hold. Charley Thompson was the driller in charge.

I knew MCCann & Harper when I saw them. They were all around the field there. I never did see Charley Thompson working for Harper & McCann, but it was my understanding all the time that he was an old driller for Harper & McCann prior to that time.

MR. WESTALL: We move to strike out the witness's understanding as incompetent, irrelevant, and immaterial, and plainly based on hearsay.

THE WITNESS: I guess I had known Charley Thompson at that time a year. When the casing failed to hold on that Hart well, we tried to cement it by siphoning it down through the drill stem. We did not attempt to pump the cement down the drill stem. No sacks or plugs were used. The job was no good—didn't hold.

The first well I saw cemented with plugs was for R. E. Allison in the spring of 1912 on the Stiles lease—the Standard Oil Company lease about three miles west of Vivian.

Q If the plug method of cementing had been known or used in the northern Louisiana field during the year 1909, what opportunity would you have had of learning of the same?

MR. WESTALL: Objected to as obviously a foolish question. The witness has already stated his experience in the wells he was connected with, and c*l* *a*rly if it was used at some other well he wasn't connected with he would not have seen it.

(Testimony of John N. Blount.)

THE WITNESS: Well, I was around with every driller and operator in the field, and if there had been any method of cementing to stop this trouble that they had with casing I would have known something about it. I had no knowledge and did not hear of the plug method of cementing in 1909. It was the first part of 1910 that I heard anything about it. That was not in connection with the Sun Company work. It was in the first part of 1910. I was working at that time for the Trees Oil Company, and I had made a trip over on Pine Island to D. C. Richardson lease. I was taking dinner over there with them, and they were discussing how to stop casing from leaking. Luther Nell, driller for the Richardson Oil Company at that time, said that he learned of some California system of cementing. He didn't see it, he had heard about it in some way. He had never tried it himself; he didn't know how to use it. In the summer of 1910 Charley Thompson tried to cement that string of casing on the Hart #1 by siphoning it down and told us that Mr. McLemore knew of some California method of cementing, but I don't know how it was done; just heard them talking.

Q After the plug method was introduced in the Louisiana fields into general use, was there any generally accepted statement or theory among you workers as to where it came from?

MR. WESTALL: Objected to as calling for mere hearsay.

A I heard it discussed as a California method lots of times, but I don't know. I heard the discussion at the time the method was introduced.

(Testimony of John N. Blount.)

ON

CROSS EXAMINATION

Mr. Blount testifies:

It was the early part of 1910 that I first heard of this California method I refer to. I was working for the Trees Oil Company on Hart #1, and had been working on that well about two months—about forty days—when I first heard of this. It must have been along in June, 1910. It was more in the middle of 1910 that I heard of it as the California method. I call that the early part of the year, along in June. I guess that's right—the middle of the year. It was along in June, I know. I heard discussion between the driller and the field method about the California method. The driller, Charley Thompson, was telling the field manager that Mr. McLemore had heard of some method in California of cementing. I don't remember whether they said plugs or not. I hadn't any idea what the California method was that they referred to. At that time all I knew was that it was some method of cementing. I don't remember where, but I had often heard the California method discussed after they had gone to cementing in 1912 and '13, that it was the California method. I heard this discussion come up on Bob Allison's rig drilling for the Standard Oil Company about three miles west of Vivian. That was in the first part of 1912, along in January.

I am not working right at the present time; figuring on going to work this afternoon if I don't stay here so long that I lose the job. I am staying down here at a rooming house. I have been here since 1921, right along all the time. Mr. Halliburton has not paid me for my time in

(Testimony of John N. Blount.)

testifying here; he has not said he would. I don't expect to receive any compensation for the time I have put in this morning in testifying. I didn't even know what I was coming up here for. There was a fellow down there in the lobby of the Randolph introduced me to Mr. Bird, and Mr. Bird told me Mr. Halliburton wanted to talk with me—well, he didn't say Mr. Halliburton either. He brought me up to this room and talked to me about the history of this cement. Mr. Bird just asked me how long I had been in the field, and he asked me would I mind giving a little testimony, and I told him no. That is all he said. This was a few days ago. I came up here to this room then and gave an affidavit.

I was a helper when I first started in the oil business. In 1907 I was a helper, and in 1908 and 1909. I have not done that kind of work ever since that time; I have been a driller several years. I became a driller in 1915, and up to that time I had been a helper and was blacksmithing a good while on a rig.

I never heard in 1908 or '9 of the use of sacks of shale in cementing, or of the use of cement to shut off water. So far as I know they didn't use cement for the purpose of shutting off water at all in 1908 and '9. The only time was along in June, 1910, I heard of that California method. I didn't know whether they used cement in that California method or not. It was discussed, that's all I know. In the discussion somebody said they used cement. I don't remember how they said they used it. I have seen the plugs used in cementing, pretty often/ever since 1912. I have been all over the field all that time.

(Testimony of Roger Canfield.)

1:30 o'clock p. m.

TESTIMONY OF ROGER CANFIELD, FOR PLAINTIFF.

ROGER CANFIELD,

called on behalf of the Plaintiff, duly sworn, testifies:

My name is Roger Canfield, better known as R. H. Canfield. I live at El Dorado, Arkansas, at the present time. I am forty-six years old. I have been a driller and a contractor and roughneck, all in the well drilling business. I entered the well drilling business in 1901 at Spindle Top, Beaumont, Texas. That was right about the time Spindle Top field came in. I went there immediately after it came in—after the discovery well came in. I did not go to work on a drilling crew. I worked on some steel tank grades, and I worked there about three weeks, and then I went out on a rice farm for six weeks, and the superintendent of the rice farm got me a position as fireman for the Forward Production Company at Spindle Top. I worked for those folks a month and then I went over to Orange County, Texas, and went to work for the Sabine Oil & Marketing Company as a roughneck, rigging up for the drilling of a well. When we were about rigged up, M. L. Lockwood, superintendent of the company, took me out to one side and asked me how I would like to run one tower on the well, and I explained to him that I wasn't a rotary driller, and he said he knew that but they had to make one, and he asked me if I would be willing to do the very best I could if they put me on as driller, and I agreed to do that and helped drill the well to about 1500 feet where it was abandoned. I took sick

(Testimony of Roger Canfield.)

when that well was finished and went back home to Ohio for about three months and came back to Beaumont, and met a party there, Mr. N. J. Bratcher. He took me out as night driller on a well at Stoll, Texas, and I helped drill that well, and then I went back to Spindle Top in 1901 and I went to work for Harry Decker as driller on a well at Spindle Top. I worked for him there for quite a time and later worked for Markham & Fowler. I helped drill one well there for them. They dissolved partnership and I became Fowler's partner in the well drilling contracting business. We drilled three wells at Spindle Top and then moved to Sour Lake, Texas, when that field came in. We drilled two wells in that field, and then we both moved to Batson, Texas, when that field came in. I think that was in 1904, and we dissolved partnership when we went over there, and I drilled a number of wells for the J. M. Guffey Petroleum Company. I drilled several wells for the company there by contract. Then I moved to Humble, Texas, when that field came in, and I drilled several wells for Grandberry & Smith by contract there. I also drilled some wells for Farish & Simms on the Mason lease there, and also some for Farish and the Producers Oil Company later, and then I moved to Houston, Texas, and later on in 1909 I went to the Caddo field in northern Louisiana and went to work for the Gulf Refining Company. That was in January or February, 1909. I went to work for them as a driller and worked as such for them about three months. Then they gave me charge of the drilling under H. A. Melat. I had charge of the drilling for the Gulf Company in the northern Louisiana field until about the latter part of 1912. During that time all of the Caddo

(Testimony of Roger Canfield.)

field was under my direction, all of the drilling wells that the company drilled in the Caddo field. As I remember, the Gulf was one of the largest companies operating in that field at that time. I had five rotary drilling rigs under me at that time.

I am familiar with the plug method of cementing wells. I didn't know anything about that method prior to 1909. We always drilled down to a part close to the top of the oil sand and rotated the casing and ground a seat in the rock in the Gulf coast fields that I have stated I worked in. I did not employ or know of others employing cement to set their pipe prior to 1909. I can tell you some of the wells on which I directed the drilling in the Louisiana field in 1909. I probably could point out more on the map—some of them, but there was a good many of them, and probably some of them have gotten away from me. The first well that I worked on in the Caddo field was Cook No. 1, and I worked on Norvell #2 and I worked on Nunley #1. I know I worked on the Cook first and then I worked on Nunley. You see, they used me for kind of a handy man. That was before I was in charge. I worked on Hostetter #3 also, and I think that is about the extent of my working on any particular jobs before I took charge. It was about three months after I went to work for them in January or February in 1909 that I took charge of the drilling operations of the Gulf in the northern Louisiana field.

I had charge of and directed the finishing of Cook #1, and we abandoned Norvell #2 and Christian #1 and about that time Mr. Wolfe was drilling a well for the company, a well they called Texarkana #1, between Oil

(Testimony of Roger Canfield.)

City and Caddo Lake near the Kansas City Southern Railroad, and at that time Amos McLemore was drilling a well they called Murray #1, and B. & O. Hanlon was drilling a well they called Allen #1. Those wells were all close together in the same vicinity. Bill Hammond was drilling a well they called Mason #1, all for the Gulf Company under my supervision. I can point out the locations of these wells I have named on a map of the Caddo field.

I recognize the map entitled "Caddo and Pine Island" as a map of the Caddo field to which I refer. With red pencil I mark Cook #1; I mark Christian #1; I mark Norvell #2; I mark Nunley #1; I mark Hostetter #3; I mark Murray #1; I mark the Mason well with a circle. The map is not entirely clear as to that. The Allen should be right south of the Murray and the Texarkana is not plain on this map either. The tracts are so small on this map that those wells are not named. The wells are here and numbered one, but it doesn't show the names of the tract. I mark those two wells. Plantation #1 is another well that we drilled.

These wells that I marked on this map were drilled in 1909. A great many of the wells on this map were not drilled as early as 1909. There are really only comparatively few of them drilled in 1909.

MR. LYON: The map identified by the witness is offered in evidence as Plaintiff's Exhibit Map of Caddo Field.

MR. WESTALL: We object to the receipt in evidence as the map has not been proven to be authentic and is not

(Testimony of Roger Canfield.)

the best evidence, no foundation having been laid for secondary evidence.

THE WITNESS: Cook #1 was my first experience in setting pipe. We drilled down with a 6-5/8-inch bit and tested ahead for a casing seat. We encountered a rock about a foot thick and drilled about ten feet below same, pulled out and reamed the hole down to within about five feet of the top of this rock with 7-7/8 bit, then cleaned out this small hole, and we set the casing with about a 10-foot nipple and six-inch pipe screwed into the bottom of the steel drive shoe, and used a pointed plug in the bottom of this nipple, and we ran the casing in the hole and seated this shoe on this soft formation above the rock. No cement was used.

We did not cement Hostetter #2. Both the Cook and the Hostetter well were completed in 1909. No cement was used in setting the casing in Nunley #1. That was completed in 1909. I wasn't there when the casing in Christian #1 was started in the hole, but I remember that the casing both settled and leaked. I mean that after it was set down where it was supposed to be on bottom and we drilled on below the casing that the pipe slipped on down. That was very much objectionable, because the pipe leaked and let water into the hole and excluded the oil to a certain extent. No attempt was made to cement that well. The casing in that well was set in 1909.

I remember how the casing was set in Texarkana #1. Mr. W. C. Wolfe was the contractor drilling that well under my direction. J. R. Crawford was the day driller; he is the man known as Slim Crawford. They had set the 6-inch casing and the pipe settled and both settled and

(Testimony of Roger Canfield.)

leaked. They pulled it out and reseated it, and it leaked again. Then Wolfe came to me and asked me to explain to him how we set our casing, and I explained to him in detail, and he attempted to reset his casing accordingly, but it leaked again, and he came back to me and wanted to know what was wrong. I asked him to explain to me just how he had set the pipe and he did, and I told him that he had drilled all of the soft formation from above the rock which he expected to support the casing, and that the water came through between the steel shoe and the rock since he couldn't get a perfect seat without rotating, which was impossible. When I explained to him that he might wrap this nipple with rope under the guard shoe and seat the rope on top of this rock and the rope would then act as a packing between the rock and the guard shoe which would prevent it from leaking. He did that with success. There was no attempt in connection with these repeated difficulties on that well to cement the well to exclude the water. Neither Mr. Wolfe nor Mr. Crawford suggested at any time cementing that well. Mr. Wolfe did ask me how to get a proper seat. That well was one of the first wells I looked after for the Gulf Refining Company. I would say it was about June, 1909.

The casing in Mason #1 was set in a very similar manner, without cementing. We set the casing in Murray #1 and for some reason or other we didn't use this nipple below the shoe, and that casing leaked when we bailed it, and the well blew out, and we had to lubricate and kill the well. That was in 1909. It was the second well that Amos McLemore drilled on. It was one of a group of wells that I first had charge of.

(Testimony of Roger Canfield.)

We drilled Allen #1 clear down on account of losing the bit in the hole. Then after chasing this bit to the bottom of the hole we found our casing seat and set this casing with the nipple in the bottom of the shoe, and then cleaned out the hole and set the liner without testing the casing, and then bailed the well in and it came in making approximately 700 barrels, as I remember it. None of the wells drilled for the Gulf Company in 1909 were cemented in the Louisiana fields.

In connection with my duties as the director of the drilling operations of the Gulf Company in the Louisiana field in 1909 I came in contact with the operations of the other companies and contractors engaged in drilling wells in that field to a considerable extent. At that time I knew nearly all of them, and it was common among us to discuss our troubles and failures and successes alike. The trouble the Gulf Company had as regards water breaking into the wells was the general experience of all of the other operators in the field, so far as I knew, and I knew pretty well.

Q What was the policy of the Gulf Company in 1909 under your direction, as regards ascertaining and employing the best methods available for its well drilling operations in that field?

MR. WESTALL: Objected to on the ground that the witness is not qualified to state what the policy was.

A Well, the policy was to undertake to get the very best methods of doing anything they did. In other words, they kept up to date.

I am familiar with the plug method of cementing wells. I never knew or learned of the plug method of cementing

(Testimony of Roger Canfield.)

wells being employed in the northern Louisiana field in 1909. I came in contact with these other operators and drillers in the field at that time by frequently stopping at their rig where they were drilling and working, and they frequently came to me. We accidently met and sometimes intentionally. I kept posted to the best extent I could in connection with my duties with the Gulf Company in 1909 on what others were doing in that field. I was supposed to keep up with what was going on and make the most of it.

I knew Harper & McCann in that field. The first I remember of either of them was at Batson, Texas, when I was drilling there. I saw them from time to time and discussed matters with them in 1909 in the Louisiana field. They never that I remember suggested to me cementing a well to shut out water in 1909.

Q Under what circumstances did you first learn of the plug method of cementing a well?

A We was drilling two wells in what was known as the Monterey district in the Caddo field. This was 1911, and it was wildcat territory to us. The Producers had finished Harrell #7, which was a large well, and the Gulf Company had some leases in that vicinity and we drilled two wells at about the same time. As I understood it, on account of the showing in Harrell #7 and on account of our inexperience in that territory, the company decided to set our casing about the same depth that we had previously been in the lower part of the field, and when the company decided to case, we were in soft formation of shale that I knew would not support the casing in our usual way of setting, and explained it accordingly to H. A.

(Testimony of Roger Canfield.)

Melat, and he then stated that he would have to cement that casing, and I told him that I knew nothing of cementing casing, and he advised me to see Jim Clark, and some other party, I can't recall who at this time, and learn from them all I could of their method of cementing, which I did.

Q What did you learn from Jim Clark; what did he have to say about it?

MR. WESTALL: We object to that as calling for hearsay evidence, and as incompetent, irrelevant and immaterial.

A I asked Jim Clark for the particulars in regard to the way that he had been successful in cementing casing, and he explained to me fully. I then cemented these two wells which we were drilling accordingly and they were a success also. The cementing of those two wells seemed to be of considerable interest to a good many, and there was a good many people there when we cemented those wells, who came to watch the wells cemented. My judgment would be that they were interested in how cementing was done and to learn for themselves. That method was not well known prior to then in that field.

Q From your talk with Clark and you got the instructions as to how to perform this method, did you learn whether or not that method was well known and had been used for a considerable time or whether it was something new that Clark had tried out himself?

MR. WESTALL: That is objected to as calling for hearsay evidence.

A It wasn't new to many of us, if any. Well, I mean cementing was absolutely new to me with the plug method.

(Testimony of Roger Canfield.)

As to whether it was or not to those who came to the well, I couldn't say; I imagine it was, from the interest they showed. All the operators in the field were pleased with the results of the method, and it was discussed accordingly.

Q What, if anything, did you learn as to the origin of that method of cementing at that time?

MR. WESTALL: Objected to as calling for hearsay evidence.

A I had heard it talked of as a California patent, but I never heard of anybody in that territory claiming the credit for devising it. After we had successfully performed the method on the two wells I mentioned in 1911, we adopted it as a regular thing. We didn't cement every well, but nearly all. I wouldn't say that that method was commonly known or used in that field in 1909 or '10. By that I mean personally I knew nothing of it in 1909. My first knowledge of cementing was in 1910, or along about the first of 1911.

ON

CROSS EXAMINATION

Mr. Canfield testifies:

Q After going to the Caddo field in 1909, how long did you continue to stay there?

A Well, let's see. I quit the Gulf the latter part of 1912 and went to work later on for the Heilperin Oil Company. I think it was in 1912. It was after I had quit. No, it must have been 1913. I would say it was along in the first of 1913 that I went to work for the Heilperin Oil Company, and I continued to work for them a year and a half. I had charge of both the drilling and

(Testimony of Roger Canfield.)

production for them. I wouldn't say positive what month in 1909 I went to work for the Gulf Refining Company in the Caddo field. I think it was January or February. It was cold weather and in the early part of the year. It could not have been May or June, and I am sure it wasn't 1910. I have seen some records to refresh my recollection as to these dates before testifying. For instance, I saw where those particular wells that I worked on and had charge of were drilled in 1909. I have seen a number of things and I couldn't say just where I did see those dates, but I have seen them here in the last few days. The company records will show for themselves. I referred to these various papers to freshen my memory on some of those occasions.

In 1909 I worked on Cook #1, and Nunley #1, and Hostetter #2, and Norvell No. 2. I don't remember of hearing of cementing a well and using a sack of shale as an indicator instead of a plug. I am sure I didn't hear of cementing with the plug system during 1909. I frequently heard about the siphon method for setting surface casing. The Gulf Refining Company siphoned cement into the surface casing on some wells that they drilled. I wouldn't attempt to say how many wells I actually saw that siphon system used on. We used it on quite a number of wells and a great many of them we didn't. Where we were not afraid of gas we didn't use it.

I knew McCann & Harper. I had talked to them some in 1908 and '9. I wouldn't say that I knew what they were doing because I wasn't with them all the time.

I did not read any of the testimony that has heretofore been given in this case. I live here at El Dorado

(Testimony of Roger Canfield.)

at the present time. I have been employed here and am at the present time. I met Mr. Halliburton at Shreveport about a month ago accidentally. He asked me what I knew about this cementing and I told him. He asked me what I was doing and I told him I was looking for a job. He asked me if I would work for him for a month and I told him I would. I am going to accept employment from him now; if he will keep me busy I sure won't miss it. I am being paid for my services now for a while. As I understood with our trade in the first place, he wanted my evidence and was willing to pay me a satisfactory price to be able to keep me in touch for that purpose, and he has kept his agreement. He hasn't promised to later give me employment, but if he does I am going to take it.

It evidently must have been along about the latter part of 1910 that I first heard of cementing with plugs or with a single plug. I couldn't be positive about it. I don't think there is a chance that it could have been as early as January, 1910. It wasn't as early as the latter part of 1909. I am absolutely positive about that. The first that I knew of it definitely as I can say was in 1911 when I talked to Jim Clark about it. I wouldn't say as to the early part of 1910. I don't remember of any particular discussion of it. I said that I heard of it in 1910, but I wouldn't say what time. I heard them talk about it in a general way previous to my talk with Jim Clark. I couldn't say who I heard talking about it.

(Testimony of I. H. Pitts.)

TESTIMONY OF I. H. PITTS, FOR PLAINTIFF.

I. H. PITTS,

called on behalf of the Plaintiff, being duly sworn, testifies:

My name is Isaac Henry Pitts. My home is in Oil City, Louisiana. I am thirty-seven years old. My occupation is driller. I first started in the well drilling business October 6, 1906, in the Caddo oil field, northern Louisiana. I went to work for the American Well & Prospecting Company. I worked on drilling crews in the northern Louisiana field until October 15, 1909. I worked for the American Well & Prospecting Company, Producers Oil Company, better known as the Texas Oil Company, and the Caddo Gas & Oil Company and the Blanchard Oil Company. Mr. W. C. Wolfe was the drilling superintendent for the Caddo Oil & Gas Company. That was in the early part of 1909, in the winter, on Caddo Lake well.

We set a string of 6-inch casing in that well first with a drive shoe, and it leaked. We did not cement that 6-inch. We never could get this string of casing to hold and we set a string of 4-inch, with a drive shoe and a four-inch nipple five or six feet below it. We did not cement that. The reason for setting that extra string of 4-inch was because we could not prevent the 6-inch leaking.

While I was working in that field in 1909 there was a comparatively few rigs running. I knew practically all of the operators and workers in that field at that time. I came in contact with them around at the rigs mostly, and we would meet in town at night. We all knew

(Testimony of I. H. Pitts.)

each other, and we talked about our different jobs and what we were doing, and so forth and so on.

I worked in that field continuously until October, 1909. I am familiar with the plug method of cementing wells. I had not heard of and did not know of such a method prior to my leaving that field in October, 1909; I never heard it mentioned, not the plug system. They were having a great deal of trouble more or less with the methods they were using at that time in that field to shut out water.

When I left the Caddo field in October, 1909, I went to Maricopa, California. I went to work out there for the American Well & Prospecting Company, drilling a well for the K. T. & O. I was not a driller on that well; I was working derrick on that job. I worked in the Maricopa fields until May, 1911, but I was back in Louisiana for a two weeks visit in the summer of 1910.

I met Mr. A. A. Perkins. I was drilling a well in the Maricopa district for the Lakeview Annex Oil Company in September, 1910. We set a string of 8-inch casing there at 2360 feet and Mr. Perkins cemented this well. He did that personally; he was there on the job. I watched him cement the well. I very well remember the method. He had two pumps and he had one to mix the cement with and the other one to pump it down with, and he used two plugs, and he had an 8-inch nipple about 10 feet long, I think, and he had these connections from his pumps connected into this 8-inch nipple, and in this nipple he had two plugs, and below these plugs were quick-opening devices for letting plugs loose when ready. We pumped the first plug to the bottom, and when the

(Testimony of I. H. Pitts.)

plug hit bottom we raised our casing just to clear the first plug, then we put our cement in—wait a minute, I want to be sure I am getting that right. I will reverse that; we put our cement in on top of the first plug and then when we got our cement in we turned the other plug loose and pumped until the first plug hit bottom, then we raised our casing to clear the first plug and continued to pump until the second plug hit bottom, then we let our casing on bottom. I had never heard of or known such a method being employed in the Louisiana field before I saw it performed by Mr. Perkins on that occasion. The only way I ever remember of seeing them cement in Louisiana prior to my going to California was the siphon system. They did not force the cement down the well by pumping with the siphon system that I knew in Louisiana, and they did not use any plug.

To the best of my knowledge, the plug method of cementing was developed in California.

I knew Edward Todd, who was afterwards vice president of the Standard Oil Company of Louisiana. We were in California together in 1910 at the time Mr. Perkins was cementing those wells. After Mr. Perkins cemented this well for the Lake View Annex, the following day Mr. Todd and I went to Taft together, and that is the last I seen of Mr. Todd, and I came back to Louisiana in 1911. When I returned to Louisiana in 1911 they were using the plug method here, some of them, at that time. I seen them cementing a well in the Caddo oil field for the Standard Oil Company with that method, and I talked to the driller, Mr. Ed Leach, about the plug system, they were using, and told him that that was the

(Testimony of I. H. Pitts.)

California system. No doubt on other occasions that method was referred to in the Caddo field as the California method. I can only recall from memory that one instance as that was the first well I seen cemented in Louisiana.

ON

CROSS EXAMINATION

Mr. Pitts testifies:

I don't know how many wells I worked on in 1909 in the Caddo fields. I worked on several. I went from one job to the other. I worked for the Blanchard Oil Company on a well in 1909. I quit them and went to work for the Producers Oil Company and worked with them until I went to California in 1909. In 1909 while working for the Blanchard Oil Company I worked on Blanchard Oil Company Surry No. 3 well; I don't remember just exactly the day and the month, but it was in the spring, I think of 1909. It wasn't 1910, because I was in California in 1910. I went to California October 15, 1909, and stayed until the summer of 1910, and came back to Louisiana and stayed not over two weeks, and then went back to California. I don't remember whether Surry #3 was the first well I worked on in the year 1909. I might have worked on some other well. C. O. & M. #5 for the Producers Oil Company was another well I worked on in 1909. Surry #3 was in the Caddo field. I can'T exactly tell you the section, but I can tell you it was a quarter of a mile northwest of Murray's crossing. This C. O. & M. #5 was located approximately half a mile north and west of Oil City. It was an offset to the Evans farm. The Evans farm was right

(Testimony of I. H. Pitts.)

on Caddo Lake. Before I went to California in 1909 I worked on White #1 I believe, of the Producers Oil Company. After that, why, I worked on almost all the wells they had. Just went from well to well at that time doing odd jobs. White #1 was three-quarters of a mile south of Oil City, between Oil City and Mooringsport. After White #1 I worked on the Lane #2, M. C. & H. #1, Anna Graham #1, and some few others that I can't remember the names of the wells, in 1909. There were three or four others. Some of them I didn't work on until I came back from California in 1910. I worked on the Anna Graham in 1910. When I was back in 1910 it had already been brought in. When I was back in 1910 I worked on the Anna Graham and Witworth. My testimony is positive that I worked on Surry #3, C. O. & M. #5, White #1, Lane #2, and M. C. & H #1 during 1909. I was roughnecking when I worked on those different wells in 1909. As to how long I worked on a well, it all depended how long I wanted to stay or how long they would let me stay. In those days there were very few men there, and a good man could always get a job.

Q Now, did you see them attempt to shut off water at all the different wells that you mentioned as having been worked on by you in 1909?

A Well, we set casing on C. O. & M. #5 and the casing held. I worked on Surry #3 until they set the 10-inch, and after that I don't know anything about that work. I was on White #1 when they set casing. They didn't cement that well to my own certain knowledge, because the plug system at that time was not in exist-

(Testimony of I. H. Pitts.)

ence in Louisiana. I heard of the plug system some time before Mr. Perkins cemented this well that I worked on in 1910. I can't recall just who it was I heard it from at that time. I went back to California in 1910 and went to work on this Lakeview Annex well, and I heard of the cementing sometime before he cemented this Annex well.

I knew McCann & Harper. I did not know they were cementing wells as contractors in 1908 and 1909. All I know, they were all using the boots and the set shoes and the rope packers and various methods of trying to shut off this water to get a seat. I don't know just to say who was using the rope packer. I don't know whether my company used a rope packer in 1909 or not for sure, but most of the wells we set with a set shoe with a nipple below, and then after they get the casing on bottom they would go in and clean out and make two or three feet, and then bail the casing to see whether it would hold or not. I can't recall any jobs in 1909 in which the rope packer was used. There were various methods that they were using. That rope packer method was one of them. I am not sure about whether they used it then or not.

Q You have already testified that they were using that among various other methods in 1909, and you wish to correct your testimony?

A Well, I don't know whether I ever seen a rope packer used in 1909 or not, but I have seen them used, but just whether it was 1909 or not I couldn't say for sure.

The only way I ever saw the siphon system used was on surface casing, and sometimes they would pour it in

(Testimony of I. H. Pitts.)

behind the casing and get what they could there, and then sometimes they would take their hose off of the stand pipe and pour this cement in behind their casing and work the casing up and down a few feet, and in this way, the cement being heavier than the mud, the cement would work its way to the bottom of the hole, forcing mud out through the casing and mud hole. The cement was poured on the outside of the casing and worked down between the outside of the casing and the walls of the hole.

Q Did you ever hear the siphoning system mentioned in 1909 at any time that you talked it over with the other men who were in the business?

A Well, not any more than when we got ready to cement the casing we would pour the cement behind it. I don't remember how many wells I saw cemented in 1909 with this siphoning system. I have mentioned a number of wells here that I worked on, but those wells that I worked on could have had the surface casing already set when I went to work on them. I don't know whether they had it set by the siphon method or not. Some of them set it without cement and some of them used that siphon system. I don't think I ever heard of the use of a sack of shale as a plug. I am positive I never heard of the plug being used in 1909 before I went West; never heard anybody mention it that I remember of at all. I did not find them using plugs when I came back to Louisiana in 1910. I was in the Caddo fields about two weeks in 1910. During that two weeks I didn't have much opportunity to see what they were using, but if they had been using the plug system I would have known

(Testimony of A. O. Smith.)

something of it, me knowing so many of the different men and drillers at that time in the Caddo oil field.

I am here because I am working up here, out in the East field for Zoder & Hunt. They are in the oil business. I am not losing any time; I am working nignts, and I come into El Dorado every afternoon for my mail, etc. No one has agreed to pay me for my services in this case. I have been reading about this suit in the papers, off and on, for a year or more, I guess, in which my testimony is being taken. I never read of one individual trial. I don't know who has testified or anything about that. All I know is that I am telling what I know about the plug system and when I first saw it. I am a driller at the present time. I am not related to MR. Halliburton in any way, nor connected in any business relations with him whatever. I have no interest in the business in which he is connected. Someone on the street told me that they was wanting affidavits and wanted to find out the old men who were working back in that time and I volunteered the information.

9:30 a. m. September 22, 1925.

TESTIMONY OF A. O. SMITH, FOR PLAINTIFF.

A. O. SMITH,

CALLED ON BEHALF OF PLAINTIFF, duly sworn, testifies:

My name is A. O. Smith. I am fifty-eight years old. My home is in Athens, Alabama. I am living now at El Dorado, Arkansas. I am a tool dresser and blacksmith on a drilling crew. A tool dresser or blacksmith keeps

(Testimony of A. O. Smith.)

up the tools, shapens the bits, do anything of general repair work that is required. I work at the rig while the well is being drilled. I have my anvil and working tools at the rig. A tool dresser or blacksmith makes and repairs anything that can be done at a small field shop. I put my field shop right close to the boiler. I have been a tool dresser or blacksmith on a well drilling crew since 1906. I started at Oil City, Louisiana, for Howard Hughes. I worked as such in the northern Louisiana field from 1906 to 1920.

I knew the firm of Harper & McCann, drilling contractors, in that field. In 1908 I went to work for them, and I knew of them before that. To the best of my recollection, though, it was 1908. I did dressing tools and general repairs at the rigs for them. In other words, I worked as a tool dresser or blacksmith on their drilling crews. To the best of my recollection I was with them part of three years, 1908, '9 and '10. They would let me off when they finished a well until they got a contract to drill another well, but I worked on their drilling crews as a tool dresser or blacksmith in 1908, '9 and '10. I worked for them on Dawes Syndicate #1, Douglass #1, at least it was at Phil Douglass' place, Alden Bridge, Busch-Everett #1, and a well at Ivan, I don't remember the name of the well, Pete #1 at Hosston. I believe that is all I remember the names of. While working for them I worked on a well on which Billy Wolfe was a driller. It was at Oil City. That's the one I don't remember the name of. I also worked on a well on which Walter George was the driller while working as a tool dresser for Harper & McCann. That was the Dawes Syndicate well right down there at Oil City.

(Testimony of A. O. Smith.)

While working for Harper & McCann as a tool dresser I worked on a well on which Charley Thompson was the driller. I worked on that well at Ivan that I don't know the name of, and on Brussard #2. The best of my recollection is that it was #2. That Brussard well was at Oil City.

While working for Harper & McCann as a tool dresser I worked on a well on which Jack Garrett was the driller. That was the Douglass well at Dixie and the Busch-Everett well at Alden Bridge. I quit working for Harper & McCann in 1910, and went to work for Bob Allison. He was a contractor in that field. I dressed tools and general repair work for him.

I am familiar with the plug method of cementing wells. It was the year that I went to work for Bob Allison that I first learned of such a method, either 1911 or '12, I don't remember which. To the best of my recollection it was 1911. It was after I left McCann & Harper. While working for Bob Allison, sometimes I would have to make the plug in connection with cementing the wells by the plug method. That is about all I did. They bought some plugs in the machine shop and I made some. In my case it appeared to be part of the work of the tool dresser on the well in that field, after the plug method was adopted, to make the plugs to be used in the cementing job. I had it to do. They looked to me to have the plugs ready. While I was with McCann & Harper I never knew of their using a plug in cementing a well. I never made a plug for them while I was with them. I did not hear of anybody else making or using any plug. While I was working for them I know of one time they

(Testimony of A. O. Smith.)

used cement in a well; I have seen Walter George cementing. He was siphoning it in. He did not use any plugs that I know of. They was at work when I got there. I went there with Hearne Harper, but they were cementing when I got there and I remember Hearne Harper getting down in the ditch and feeling for the cement to return. I mean he felt of the fluid that was coming out at the top of the well to see whether any cement was in it. That is the way he determined when to stop pumping the cement. I don't recollect what well that was. It was east of Vivian, out between Vivian and Hosston. I can't remember the name of the well; I did not work on it, but went to it with Mr. Harper.

At that cementing job, I suppose the pump was stopped when the cement returned on the outside. They mixed sand with the cement in them days. If McCann & Harper had been using the plug method of cementing while I was working for them as a tool dresser, I think I would have known of it. They would have been sure to have made the plugs there at my shop as others did later on.

ON

CROSS EXAMINATION

Mr. Smith testifies:

I have not a very good memory for dates. To the best of my recollection I give the dates. I don't know positively that the dates which I have given are correct. I never had any notes or any memoranda or record to look up these dates that I have mentioned before testifying.

(Testimony of A. O. Smith.)

I knew Harper in 1902 at Spindle Top and that was before Harper & McCann went to contracting. To the best of my recollection it was 1908 that I was tool dresser for Harper & McCann. I think I am certain that that was the year that I went to work for them. I think it was early in the year, sometime in the spring, I went to work for them. I don't think it was in the early part of 1909; I think it was 1908. I don't think there is a possibility of my being mistaken, although I have not looked up the date. I think that it was 1908 I went to work for them.

To the best of my recollection, it was 1910 I quit working as tool dresser for Harper & McCann. I am pretty sure it was 1910. It was in the fall; I feel sure that it was in the fall of the year. I am almost sure it was 1910. It could not have been the spring of 1911; I was working for Allison in 1911. I went to work for him on the 28th of December in 1910, after I quit McCann & Harper.

I did not see any jobs of cementing of wells in 1908. I seen Walter George's job in 1909. To the best of my recollection it was in the summertime. I don't know the name of the well. It was between Hosston and Vivian. I don't think Walter George used the plug on that well. They were cementing when I got there and they were siphoning in. I don't think they might have inserted the plug before I arrived, for the reason that Harper was feeling of the cement to see when it returned.

I don't recollect exactly what dates on what wells I worked on in 1909. I don't remember the wells I worked on in 1910 or any of the dates. I couldn't give the exact

(Testimony of A. O. Smith.)

dates of the wells. I think I worked on that Busch-Everett well at Alden Bridge in 1910. I am not sure, but I think it was in 1910 I worked on that well.

I don't remember the names of the wells I worked on in 1911 and the dates of the time I spent on those wells; not for McCann & Harper, as I didn't work for them in 1911. I don't remember but one well I worked on for Allison then; that was Barnes #1. I went to work for them on the 28th of December, 1910. I recollect that by a little incident that happened then that fixes the date in my mind. They built me a shop there at the well, and I dressed tools for all five of his rigs, and they hauled the bits in to me there and I sharped them and they delivered them. They were working on a good many wells, and I couldn't state the names of them or who they were for, except I remember the Standard Oil Company.

In 1913 I worked on Smith #1 at Neighborton. I did work on a number of other wells during 1913 besides that one that I don't now recall. I know positively it was in October that I went to Neighborton and went to work on that Smith #1.

In 1914 I had a shop just like I did at Oil City. Allison had a number of rigs running and I tended to the shop and didn't pay any attention to what rigs the tools went to.

I didn't see any jobs of cementing in 1910, unless the Harper job in 1910. I don't know that they were using the plug method of cementing in 1910 at all. I don't know of any operators down in the vicinity in which I was working using it. I did not pay very much atten-

(Testimony of A. O. Smith.)

tion to the methods used for shutting off water from the oil wells in 1908, except when they drove the casing. That is about the only method they used. It didn't interest me very much. That was out of my line and I never paid very much attention to it. I noticed they drove the casing, and I asked what that was for, and it was to get a seat. They never used any plugs on the wells that I worked on in 1908, and the same is true of 1909, that I don't know except with regard to the wells I actually worked on whether they used a plug or not. I have seen a sack of shale used as an indicator. That was while I was working for Bob Allison. The first time I seen that they used a sack of shale on top of the plug—the first plug that I ever saw. I did not hear of them ever using plugs before I went to work for Bob Allison. I never heard of it at all. To the best of my recollection it was sometime in 1911 that I saw the first plug used by Bob Allison. I never heard of the use of the plug in 1910 by anybody.

I first heard of this case in which I am testifying about a month or so ago. Mr. Canfield told me about it. I am not working now. I have been out of employment about three months. I met Mr. Halliburton here. I am not being paid for the time I have spent on this case testifying. I have been here in El Dorado a little over two months. I came from Corsicana here. There was nothing doing over there and there were possibilities of going to work here. That is the reason I came here, because there is more work here than anywhere else in my line, but I have never been able to get any here. Mr. Canfield did not tell me they were trying to prove that

(Testimony of Fred Stone.)

the plug was not used until 1911. He asked me what I knew about it, and I told him what I knew about it, and he asked me if I could come up here and make a statement, and I made a statement before this. I don't know whether Mr. Lyon took my statement. This young lady (pointing to stenographer) took it. No one asked me the questions. They asked me to give them this statement, and I went ahead. I didn't dictate the statement to the stenographer; I made the statement to Mr. Lyon and he dictated it to the lady. To the best of my recollection that was a month ago or three weeks ago.

I have been knowing Mr. Canfield over ten years. He did not suggest to me that I might get employment here some place, or that Mr. Halliburton might possibly give me a job. I don't think Mr. Halliburton has got anything that I could do. I have not been paid anything for any of the time that I have spent on the case. I have not been promised any employment or any pay.

TESTIMONY OF FRED STONE, FOR PLAINTIFF.

FRED STONE,

called on behalf of Plaintiff, being duly sworn, testifies:

My name is Fred Stone. I live at Vivian, Louisiana. I am thirty-nine years old. I am a driller, and have been drilling on a well drilling crew since 1909. I entered that work at Vivian, which is in the Caddo field in northern Louisiana. I started work sometime in the spring of 1909 for Billy Wolfe. That is what it was known as

(Testimony of Fred Stone.)

then—Billy Wolfe. It might have been named Wolfe Drilling Company. Anyhow, I worked for Wolfe. I worked as helper on the floor of the drilling rig for him, until sometime in the late summer of that year, about August, I guess, when I left there, August or September. The first well I worked on for Wolfe in 1909 was Edwards #2, and then we drilled Childs #2 and Blackman 2 and 3. I don't know which one of those latter were drilled first, as we were jumping about back and forth over the lease. I know how the pipe or casing was set in Blackman Well #3. I saw the surface string set, but I am not positive about the oil string. We set the surface casing and washed it and then cemented it by siphoning. We did not use any plug. While I was with Wolfe in 1909 I did not see any cementing done in which a plug was employed, and I did not hear of any.

After leaving Wolfe in the late summer of 1909 I went to work for the Sun Company. That was in December, 1909, on Barr No. 1 well. I worked as helper on that well. J. W. Clark was in charge of it. I remember the circumstances about the setting of the 8-inch pipe in that well. We set the casing right above the gas rock somewhere around 1000 feet and cemented. We used a sack plug on that. That was the first time I ever saw a plug used.

Q State what you know about what led to the use of that method on that well.

A While we was drilling that well, Mr. Clark and the civil engineer, I have forgotten his name, and Mr. Pew asked how we had been cementing on the wells around there, and I told him all I knew was siphoning,

(Testimony of Fred Stone.)

but Mr. Pew or Clark were not satisfied with the siphoning method, so they decided to figure out some other way of cementing. They first proposed to box up the derrick floor 12 inches high and mix the cement in the floor and take it up with a pump and pump it in the well. They didn't do that, so they filled a box about six feet square and mixed a box full of cement, and used a short suction for the pump about four or five feet in length, and they picked that up with the pump and got the manifold full of cement when they ran out of cement. The cement set and we had to tear down the manifold and the pump and wash the cement out. After that they decided to use the sack. They made a displacement with the four-inch drill stem and poured the cement in the top of the casing and put a sack plug on it and pumped it down until the pump stopped and they called it a job. It made a good job. Some of the cement was left in the pipe, I don't remember just exactly how much. Some of it come back up in the casing and we drilled out some of it. I don't remember just exactly how much cement was left in the casing, but there was quite a bit in there.

To my knowledge that was the first well in northern Louisiana that had been cemented by employing a plug of any kind. I had never heard of a plug before that. The date of that cementing was either about the last of December or the first of January, as we were drilling at Christmas time, December, 1909. We worked, I guess, about a month longer. We was about five or six hundred feet deep on #2 when I left the Sun Company and went to work for the Gulf Refining Company as a helper on a drilling crew. I worked for them until the next

(Testimony of Fred Stone.)

June, 1910. I have to figure out where I went from there, we jumped around so much. As well as I remember I went to work for J. W. Clark, Clark & Morgan it was then. For the Gulf Refining Company in 1910 we drilled one shallow well near Vivian. Mr. H. A. Melat and Canfield had charge of the drilling operations of the Gulf Company at that time in the field. Canfield was directly in charge at the wells. We didn't cement that well at all.

ON

CROSS EXAMINATION

Mr. Stone testifies:

I can not remember exactly the month I went to work for Billy Wolfe; sometime in the spring. We had drilled several wells in July, up until July. I am positive it was not *the* as early as January, 1909, I went to work for him. I am sure of my year, 1909; it was not 1908. I used to be in the teaming business, and I was in the teaming business up until 1909. I drove a team awhile in 1909, in the early part of 1909. When I went to work for Billy Wolfe I was a helper; it was my first work on a rig. Before that all I knew about oil field work was what I saw in the field—hauling and teaming.

In 1909 I worked on Edwards #2, Blackman #2, Childs #2, and Blackman #3. Edwards #2 was my first well. That was when I went to work for them sometime in the spring. I think it must have been about April or May. I have not looked at any logs of wells or anything like that to refresh my memory as to these dates, and I have not talked the matter over with anyone else in order to be sure of them. I happened to testify in this case, because Mr. Canfield met me down on the

(Testimony of Fred Stone.)

street and asked me if I wasn't working on some of those old wells in the early days. He said he wanted to find out what I knew about it.

I live at Vivian. I came to El Dorado in February, about the last of February. I have been employed here since that time all the way through, working for the Eureka Drilling Company Hill-Bostick as a driller. I got my foot broke on the 4th day of August and I had it in a cast five weeks. I have been off on account of the broken foot. I didn't draw any time from the company, but I drew insurance money.

I don't think Edwards #2 was cemented; I am pretty sure it wasn't. The surface casing on Childs #2 was cemented, but I don't know anything about the other casing. Blackman #3 we cemented the surface casing, but I don't know how the oil string was set. I don't remember about Blackman #2. I don't know whether it was cemented or not. Some of these wells were cemented and some were not; I mean the surface casing. I don't know anything about any cementing on the oil string, or any of those wells I mentioned.

I first heard of the use of a sack plug along the last of December or first of January, 1909, and that was on Barr #1. That is located about two miles east of Vivian, between Vivian and Hosston. I saw the cementing work on that well, where the sack was used; I helped do the work. I helped mix the cement and helped run the casing in the well. I was working at that time as helper for J. W. Clark in charge of the well. This sack plug, they taken a cement sack and filled it full of shale out of the ditch, and put it in the casing on top of the cement,

(Testimony of Fred Stone.)

and put some empty cement sacks on top of that. It went to the bottom and stopped the pump. We supposed it did. That is the first time I ever heard of that method of cementing.

After December or January, 1909, after that Barr #1 was cemented with a sack plug, I did not observe the use of the plug method of cementing in 1910. We didn't cement any of those wells. I was not in a position to see any jobs of cementing in 1910, only the ones I was working on, I didn't know what methods were being used on other wells, only just what I heard. I heard around on the streets that they had begun using a plug. That was late in 1910, some time after I saw this plug on the Barr #1.

Q Do you know what time it was in 1910 you heard them talking about using plugs generally?

MR. LYON: That is objected to as assuming a fact not testified to by the witness; he has not stated that plugs were being used generally then.

A No, I don't remember exactly. I don't think there was very much cementing done in the deep field where I was at that time. We used rope packers set in a rat hole. In using the rope packer they get the seat for the casing, then they reduce the hole and drill a rat hole about five or six feet below the bottom of the main hole, then they put a short nipple of five or six feet long on the bottom of the casing and wrap that with rope—small rope or hemp packing—and set it down in that small hole and drive it if necessary, and the rope acts as a sort of a packer, using that on the deep holes. That is all the companies that I knew anything about around there.

(Testimony of Fred Stone.)

All I know about what those other companies besides the one I was working for were doing in 1909 and 1910 is what I would hear on the street, about the other companies. I never saw any of them using that packer method.

I knew McCann & Harper. I didn't know how they were shutting off water from their wells in 1909. Harper came to the Sun Company well with Clark when they were fixing to cement that well. That is Barr #1 well. He did not suggest the use of this sack of shale that I know of. I was under the impression that the civil engineer worked it out; I don't remember his name.

ON

REDIRECT EXAMINATION

Mr. Stone testifies:

Q To what extent were these matters of setting casing to shut off water discussed among you men that were working in the field in 1909 and '10? You say that you discussed them in the street.

A Well, I will tell you, where fellows meet on the streets at night, that's all they talk about is their work, and if anything happens unusual we hear about it on the street. It is the custom for the workers in the field to congregate along the streets in the oil town when they are off work, and that is where those discussions took place. They drill lots of wells on the street. In 1909 or 1910 I never heard any mention that Harper & McCann were using the plug method of cementing a well.

Q Do you believe that they were?

MR. WESTALL: Objected to as totally incompetent, irrelevant and immaterial as to what he believes.

(Testimony of Fred Stone.)

A No, sir, I don't believe they were. I have known Mr. Harper personally since that time. I am on very good terms with him; we are good friends. I knew Walter George; I was on good terms with him.

Q BY MR. WESTALL: If I should tell you that both of those men have sworn that they used the plug in 1909, giving the names of the wells and also giving the names of the crews that worked on those wells, all of whom testified that they used the plug, would you believe it?

MR. LYON: Objected to as incompetent and not a proper method of proof. One witness cannot pass upon the testimony of another witness, and it is not proper cross-examination to attempt to cross-examine this witness upon the alleged testimony of other witnesses that was not referred to in the direct examination of this witness.

A I wouldn't doubt their word.

Q BY MR. LYON: You mean that you would not want to offend your friendship with Mr. Harper and Mr. George?

MR. WESTALL: We object to that question; you asked him on direct examination.

A That might have happened, but I didn't hear anything about it. I never heard Mr. Harper or Mr. George make any such claim except what Mr. Westall states that they testified to. I knew Mr. Harper and Mr. George both in 1909 and 1910.

(Testimony of John Bird.)

TESTIMONY OF JOHN BIRD, FOR PLAINTIFF.

JOHN BIRD,

called on behalf of the Plaintiff, being duly sworn, testifies:

My name is John Bird. I will be forty years old the 20th of next July. I live at 1137 Dalzell Street, Shreveport. I am in the land and leasing business, well drilling, promoting wells and getting wildcat acreage—several different lines, all connected with the oil industry; I have been for twenty years, and particularly with the oil well drilling part of the industry. I started out in the leasing business and land business in the beginning of the Caddo field. I lived at 715 Crockett Street, Shreveport, at the time the Caddo field was discovered. I first became interested in the oil drilling game when Savage Brothers drilled the first oil well in Caddo. One of those was the discovery well, made a small amount of oil. The next spring we formed what was known as the Louisiana Real Estate and Development Company, composed of Louis Herlperin, Charles Summers and about twelve stockholders in various lines. My brother, T. E. Bird, and myself went out to secure leases in the proximity of the wells that were being drilled. We paid those farmers whatever we could get the lease for, from one dollar an acre up to four or five, and then sell them to the big companies who were just entering the fields at that time. I mean by leases, oil leases, the right to exploit oil on the land. There were no oil companies here then. The Producers, the Gulf, the Texas, the Standard, or any of them were not in the field at that time, Several

(Testimony of John Bird.)

of them had scouts watching the possibility of getting oil and we dealt with them. I have been in this business at Caddo Parish continuously; we are operating up there now. We have a lease in Section 4, known as Section Thirty Oil Company.

In 1905 I went into that work in that field.. I was traveling, and I made that territory, but I quit my job with the grocery concern that I was traveling for and went exclusively into the land business and lease business, and have been in that business continuously ever since.

Q Now, will you describe to us what experience you had or what opportunity you had to know the development of the Caddo field and how and what wells were drilled there from 1905 up to 1910?

A Well, we evolved the idea of keeping books on all the rigs that were running, who the operating company was and how deep they were, and when they finished what the production was and if it was a dry hole. I was interested in a map making concern which we had to keep tab on every well drilling and furnish information to our office so we could have the locations properly. There were no maps made. I made the first map of the Caddo oil fields when there was one well drilling and no production. They had not finished the first well. We then saw the chance to act as correspondents for different papers who wanted information, so I made a proposition to a number of oil journals to send them the data on the field, and for the new operators that were not familiar with the field, we would make up what we called a drilling report each week, and I went around from rig to rig

(Testimony of John Bird.)

and got the dope from the drillers and roughnecks and used to type these copies myself in the office and send them in to the different companies. We did that continuously from the time we maintained an office until right on up to date. We don't keep it any more because we get our records from Mrs. Vaughan at Shreveport. We kept it up until 1919, and it got so big and then we couldn't get information from the companies like we wished. They wouldn't give it to us. In the early days of the field, up to say 1912, the attitude of the operators as regards giving us information was fine with us; we would give them our dope and they would return us theirs out of a courtesy proposition. All of the scouts for the other companies would tell us what was going on on wells that we wouldn't see, and we would tell them on wells that we were watching closely.

We had a fire at Vivian and lost our office, practically everything except a few odds and ends of personal letters that I kept at home. The papers that we corresponded for would send us clippings back, and we put them in a clipping book, and they would pay us at the end of the month for the amount of space that we sent them.

The headquarters of our firm were at 1019 Commercial Bank Building, at Shreveport, and we had an office at Oil City, and we had one at Vivian. We have had an office in every boom town that has been in Louisiana since the field opened.

I can produce specimens that have been preserved, to show the nature of the data that I compiled on these different wells. I have some in my book, a specimen of one of

(Testimony of John Bird.)

our reports, showing the name of the company, the number of the well, the section, township and range and the depth of the well and condition of it on Saturday of that week.

(First paper received in evidence as Plaintiff's Exhibit Specimen of Bird Field Reports, entitled "Report of Northwestern Louisiana, week ending July 24, 1915.

Second paper received as Plaintiff's Exhibit Bird Plat Books)

THE WITNESS: We would send our men out, or go out ourselves and get the location of the well and the name of the company drilling it and what information we could get and follow that well until it was completed, and then take it off our books. We used this form for that purpose; they turned these in weekly. We had at one time about twelve men working for us and four stenographers doing this work for us as the fields grew large.

In the years 1908 to 1911 I stayed in the field all the time except on Saturdays I would go to Shreveport, or maybe during the week on a business deal. We built a bungalow of our own at Oil City, where I lived. During the first part of the boom we lived in a tent, when it first started, and later boarded at the Edwards House and the Bailey Hotel at Vivian. We made it our business in 1908 to 1911 to become acquainted with all of the operators and know just what they were doing as near as possible. Some wouldn't tell us. I knew all the old timers personally and know all the oil men now, as far as that goes. In 1908 to 1911 I knew both McCann and Harper personally. McCann was a close personal

(Testimony of John Bird.)

friend of mine, and I have shared my room with him many nights, and had many meals with him, and he used to give me whatever dope that he could for my dope sheet, as we called it. I knew Billy Wolfe during that time. He did not take information from me. He was very nice. Billy has always been a nice clever fellow.

I went into the oil business with the one idea in view of trying to learn it—get all the dope I could. I saw a possibility of changing my business, and I made every effort I could to get all the information that was available regarding any ideas. I bought several patents on oil ideas during my time and watched new devices being used. I went out and watched the drilling operations, and when I didn't know what they were doing I asked them so I couldn't fool myself about it.

In the northern Louisiana field in 1908 to 1911 they had lots of trouble due to water entering the wells below or at the shoe of the casing or pipe. As to the extent that trouble entered into my doings or personally affected me. we will just take one instance at Vivian. We were very vitally interested in the outcome of those wells because we bought a subdivision from Mrs. Christian, and if the wells were not good, why, we had just lost all the money we put into the proposition, and, naturally, we followed the outcome of the wells very close. I mean if the field didn't pan out our subdivision was valueless.

Q To what extent, to your knowledge, was the trouble with water breaking into the wells being experienced by the operators in that field in 1908 to '11 subject to discussion in Vivian and Oil City and around the field among the workers and operators?

(Testimony of John Bird.)

A Well, all the old time drillers were cable tool men. They didn't know anything about our formation and they didn't know anything about rotary rigs, and these fellows who came from south Louisiana and over in Texas that had had the same experience at Beaumont knew how to set shoes and nipples and those things, and we used to have round table discussions at the hotel at night and out on the rigs regarding the best method of handling the situation. I have talked to Mr. McCann and Mr. Harper about it many times in 1908 and '9.

The first real experience I had with methods of setting pipe to shut out water was when Roger Canfield came up to work for the Gulf, and they were setting in gumbo on the lake there on the Gulf wells wherever it was possible, and Roger and I became good friends, and we even tried to work out an idea of our own, and we were interested in the lease that was being drilled, and we were afraid of water and Bill Henning was our driller, and he hadn't had much experience with a rotary rig, and we naturally tried to find out everything we could. Bill was an old cable tool man. That was in 1909. Roger came to the field, I think, in 1909. They set the pipe in that field in 1908 and '9 with shoes and nipples. I kept track of how the different wells were set. I watched them and talked with them about it, and with the different drillers that are too numerous to mention. I would meet them on an average of once or twice a week and talk it. When they couldn't get a seat in gumbo, they would set with a shoe.

The first cementing I knew of to exclude water at the bottom of the pipe was on the Barr well at Vivian. I

(Testimony of John Bird.)

do not mean cementing by the plug method. They used a sack of shale with pyrites of iron in it. I had heard of a method of siphoning cement down without any plug before that. It wasn't a success on one or two wells, however, and was not much used prior to that Barr well. I saw Billy Wolfe use the siphoning method, and saw McCann & Harper use it. I never knew of Billy Wolfe or McCann & Harper using the plug method of cementing in 1908, '9 and '10. I believe they would have told me if they had found anything that was new in the cementing line, because they tried siphoning, and in some cases it wasn't a success. I discussed with them their different problems just as I did with others.

Referring to Mrs. E. C. Christian's well #1 located in the center of the Northwest quarter of Northeast quarter of Section 6, Township 22, Range 15, in Caddo Parish, drilled in March and April, 1909, by Walter George for McCann & Harper, I watched that well very closely for the reason that we had bought this tract of land from Mrs. Christian, and we had made her a partial payment on the fort*h* acres known as Christian Heights in Vivian today. Mr. J. L. Breathwit and I watched that well after it got down to about 900 feet from then until it was finished, and we then closed the deal because we thought the well would be a great producer. Instead of that, it didn't amount to very much. They had some trouble on it and it didn't make much oil. I was out at the well the day that they set the 6-inch, and we went over to the camp and had dinner and came back, and we all cleaned up and the crowd came to Vivian along in the afternoon. They set the 6-inch, to the best of my recol-

(Testimony of John Bird.)

lection, in gumbo. They didn't cement the well, not that I know of. There was no cement out there, and nobody said anything about cementing it. I am quite sure of that.

Powell #1, drilled about February, 1909, by Wolfe, Slim Crawford being the driller, was right in south of Vivian. That was on Frank Powell's land. I knew Frank Powell very well. He used to do all my notarial work up there. I kept track of the drilling of Powell #1 well. That well was also a poor well, and I discussed it with Frank Powell afterwards, and he claimed that the well was not finished properly. He had great expectations of a well and didn't get very much out of it. If I remember right the setting of the pipe in that well was a gumbo proposition too. I was there at the well when the pipe was set, because when they had finished the well and said they were going to set the six, Mr. Breathwit and I drove out to the well. To my knowledge they did not cement the well.

Prior to the cementing of the Barr #1 by Jim Clark in northern Louisiana, they didn't cement any of the wells only the surface casing, except where they siphoned in, and they did not use any plugs. They were experiencing considerable trouble during that time with getting a proper seat for the pipe to shut out the water. We even went so far as Charley Doolittle and Charley Latham. We hired a man by the name of Martin at the machine shop to see if we couldn't make a packer that would shut the water off, and Charley Clayton had already patented one, and Harry Brewster made one he called the Caddo canvas packer. It was a collapsible packer that was put in the bottom of the well to shut off the water.

(Testimony of John Bird.)

During 1908 to 1911 in that field very little work was going on, fifteen or twenty rigs running. What the other fellow was doing was pretty well known, for the reason that nearly all of the present day operators were roughnecks and were made in that field there. Take Slim Crawford and Fred Stone, who was just here, and Bud Durr, were all a bunch of country boys up there, and were just roughnecking at that time.

The first real job of plug method cementing that I saw was Bob Allison's. I think it was on Siles 3 or 5. I remember the first two wells cemented by that method for the Gulf Company to which Mr. Canfield referred here. I was on both of the wells and drove out with Roger when they cemented. It was 1911 before the plug method really was put to practical use in northern Louisiana. I will tell you the reason I say that: I got a snake bite in the week before Christmas in 1910, and I was laid up practically for six months. I was partially paralyzed, but I could get out and get around, and my brother went backwards and forwards to the field and I stayed in Shreveport, and I used to write up the reports as he brought them in, and I kept in touch with the field. I was practically out, you might say, for five months. That was December, January, February, March, April and May of 1911.

When the plug system of cementing was adopted in the northern Louisiana field it was discussed quite a bit by the operators and workers.

Q Did you ever hear in that discussion any generally accepted theory as to the origin of that method?

(Testimony of John Bird.)

A Yes, it was understood that it was first used in California.

MR. WESTALL: We move to strike out the witness's answer as to what was understood, and also on the ground that the testimony is purely hearsay.

A Well, on the Bailey #1 and #2 and from that on up to Bailey #16, Ed Bailey and I were interested, and I lived at his house while I was at Vivian and it was a boarding house for the workers in the field. It was called the Bailey Hotel. It was run by Ed Bailey's mother. We secured a lease for him, and after they got a number of wells, why, they quit keeping boarding house and Ed became the manager for his mother's oil business, and the water situation between Vivian and Hosston was very bad. We had trouble on the old Southern Oil & Gas Company lease, which was owned by a crowd of us, and as soon as plug cementing became known we used it continuously and used it up to date. Bailey #4, I believe the well made 800 or 900 barrels. That was shallow stuff. It was from 970 to 1020 and they came in making sometimes 1200 to 1500 barrels, and if you didn't have the seat properly—in other words, if the casing wasn't seated properly, the well would cut itself out and go to pieces, and the water would come in, and we talked it over with Bill Henning, and I am quite positive the method of cementing was discussed as a California method. I heard others refer to it as the California method frequently after that. After it became fashionable to cement, why, it was called the California method.

(Adjournment to 1:55 P. M.)

We furnished the detail information, such as illustrated in the specimen report of northwestern Louisiana, week

(Testimony of John Bird.)

ending July 24, 1925, during the years 1908, '9 and '10, to the Shreveport Times, Shreveport Journal, The Dallas News, the New Orleans Item, and we sent a generalized monthly report to the Manufacturers Record of Baltimore and to the Fuel Oil Journal and Oil & Gas Journal of Tulsa. The information we sent to these publications was used as a matter of news as to the progress being made in the new field, and when a well came in we endeavored to get what they called "action pictures," that is, the well flowing, for which we got a bonus for a picture of that kind. The information we so furnished to these publications was accepted by them and published as authentic without question. We were their authorized correspondents, and if a—like the big Levee Board wells and the Producers wells and the Stiles wells, we sent in big stories of these wells by telegraph, sometimes as much as a thousand words.

When we first heard of the plug method being used, it was discussed and primarily agreed upon by all the operators that I talked with as the California method of cementing wells. Several drillers had gone to California and had returned to Caddo and then they started using cement. Our first active drilling of a well was in 1911 on the Murray. We bought a drilling rig and took a dip in the oil business then. Since that time we have drilled about sixty of them—to be exact, sixty-three. In 1908, '9, '10 and '11 I never knew or learned of any claim being made by any operator or worker in the northern Louisiana field that the plug method of cementing had been invented by him or there and not in California.

(Testimony of John Bird.)

ON

CROSS EXAMINATION

Mr. Bird testifies:

The Barr well, at Vivian, in which I said a sack of shale was used in cementing, was drilled in 1910. I can tell you about it in my scrap book which I have here in front of me. The Barr well was cemented with a sack of shale but not with a wooden plug. By referring to this scrap book, the date when it was cemented was in 1909. This Barr well was about two miles south and east of Vivian on what is called the Hosston road, on Dave Barr's lease. Jim Clark was in charge of the drilling of it That was, I think, in the spring or summer of 1909. I can look in my book, though, and tell you the exact date. I have that mixed up with the Childs. There were four wells drilling in there, the Childs well and the Barr well and the Powell well and the Blackman well. They were all drilling in around Vivian in the beginning of the first operations there. I visited the lease a number of times when they shut down to cement this Barr well. We went over and they were finishing up the well then when we got there.

Q You know that the well was cemented using this sack of shale in place of a wooden plug, do you not? The Barr well I am talking about now.

A You have got me balled up on that. I am referring now to my data that I have and that I kept on those wells. It is a typewritten sheet which I prepared myself for my records. I ran through my records before I came up to testify, to check my stuff up. I didn't say I was confused as to this Barr Well. They used a sack of shale on the Barr well. I said that the well that Jim Clark was on

(Testimony of John Bird.)

was the Barr well, and that was the well that was cemented, and they used a sac*l* of shale on that well. That was on the Barr lease. It is correct that this Barr well was cemented using a sack of shale in place of a wooden plug; that was my understanding of the way the well was finished. That was drilled in 1910. I am sure that the well was Barr No. 1 and was started in 1909 and finished in 1910. I am sure about that. I remember that date by digging up some old records and having it in my mind for the reason that we had bought a lot of property up in Vivian that year and were getting ready to open up our stuff up there. We moved our office to Vivian between Christmas and the first of January. We had it before at Oil City and Shreveport.

I would have to look in my dope sheet to see who the drillers and helpers on Christian #1 well were. I can get the dope sheet. Before testifying in this case I have not read any of the testimony given by prior witnesses. I looked up my own stuff. I have talked to nearly everybody that was up in the oil field about that time—all these old drillers and roughnecks. I talked to Hearne Harper. I see Hearne every time he is here. He is out of town now. We talked about all the old wells in the early days up there when he was here about ten days ago. I discussed the methods of cementing those wells with him; that was the prime idea of the talk.

Q Did you talk with anyone else that worked on the Christian No. 1 well regarding the dates?

A No, I didn't talk about that. I was talking about the Barr well. I talked to old Dingbat Kelly and to Slim Simmons and Diamond Dick about the method of cement-

(Testimony of John Bird.)

ing employed on the Christian #1 well, and other old timers that were there.

Q Why did you talk to those men? Why didn't you get the names from your records of those who had actually worked on that well?

A We didn't keep the names of the men who worked on the wells. We kept the depth of the well, the location. We were not interested outside of knowing them and who was on the well. We talked to the contractors and maybe the owners of the property. I could get the names of every man who worked on every well in the Vivian District, if you will give me the name of the well and the time. I can tell you the contractor, the depth of the well, the date it came in and all about it. I made a living doing that—cleared $100,000 furnishing that information.

I did not come from Shreveport here to testify; I am interested in some stuff up here; got some stuff out in the East field and am looking after some leases and have a deal or two on hand. I did not give a statement or affidavit to anyone connected with this case prior to my coming here to testify. I talked things over with Mr. Halliburton and told him that I could give him information that would probably help him, and volunteered to give it to him. I am up here on my own expense and well able to take care of myself.

One or two of the persons that I talked over the method that was used in cementing Christian #1 well claimed that they worked on the well. I can get the dope for you on Christian #1. I have not discussed Christian #1 with anybody. All the data that I had I very gladly furnished it to Mr. Halliburton and gave it to him, anything that I

(Testimony of John Bird.)

thought would help him out on the proposition. I had maps and pictures and stories of the oil field, and then what I knew myself. I stayed there continuously for a number of years until we moved to Bull Bayou and Homer. We brought in Gusher Bend. I haven't discussed anything regarding the Christian #1 with anybody, but I know all about it though. I can go and get you the stuff on Christian #1 because I have that dope.

Hearne Harper and I talked in a general way about this Halliburton proposition. We talked two hours and a half the other night and he was talking about the merits of the cementing idea and about that time the case was settled. I thought the Standard had compromised, and I haven't talked to him since that. I know him very well and we are very friendly.

Q You know that under this agreement with the Standard that anyone who wants to come in under the contract is to pay $75 royalty per well; did you know that?

MR. LYON: That is objected to as not the best evidence.

A Yes, sir, what I know about the compromise is what I read in the papers like everybody else read.

Q Let me ask you what you suppose that compromise was.

MR. LYON: Objected to as not the best evidence and not proper cross-examination.

A My conclusion regarding that would be like any other newspaper item. I am interested this way, that I think the cementing idea is good, its clever, I think, and I think it is worth all they ask for it. As far as what Mr.

(Testimony of John Bird.)

Halliburton did with the Standard, that's his own business. I will run mine and he can run his. I don't know any of the inside of the proposition. When he gets ready to make a contract with us, we will look it over and I think we will take it. I don't know what it is. We are getting ready to drill a well out here, and when we get ready to cement, we are going to have him cement it and pay whatever he charges us for it. I am not interested in the terms of that contract at all. I don't care anything about it. I don't belong to the Independent Oil Association, and I am not interested in what they do.

We have used this plug method of cementing in every well that we have ever cemented. Bob Allison drilled six for us, and Malley Easton drilled seven, and Canfield drilled one. All told we have drilled sixty-two or three wells. We have used the plug system on every one of them. I have no special arrangement with Mr. Halliburton as to past damages or profits on these wells. My understanding from the general talk on the streets is that everybody is satisfied. I know I am. If Mr. Halliburton wants $250 to render you the service of cementing, why, we are just going to pay it because we make the other fellow pay it anyhow. Nothing has been said to me about having to pay any past damages or profits from our prior use of this plug process. I understood that all of the past royalties or past charges against the operators would be waived if they came down to the mourners' bench and signed up. In other words, if we go ahead and use Halliburton's system from now on, why, that is all. That has been told by a number of pretty good operators, and they are all satisfied with it. I talked to Rabbit Herring. He

(Testimony of John Bird.)

has drilled about 150 wells and we talked about Mr. Halliburton using his system up in Oklahoma where he used 700 sacks of cement at Tonkawa. He put the cement in in an hour and ten minutes and said if that wasn't worth the money nothing else was, and I told him I thought so too. I can tell you how he succeeded in putting that cement in there so quickly; I have seen him operate. He has a high pressure pumping system, and then he has a mixer and he puts it in there about as fast as the roughnecks can put the cement to it. I think it is clever myself. I laid off a whole day and drove seventy miles to see it work.

Q In other words, you believe that the use of that mixer would be well worth the payment of $250.00 per well when used in connection with the plug method of cementing, is that correct?

A I will tell you my experience, Mr. Westall. I will tell you why I believe it is correct. We lost a fortune in a well on the Youree. I had to quit and go to work because we didn't have it properly cemented. We had a bollweevil driller who didn't understand cementing, and I sent for Roger Canfield and we give the well up. That was the only well that we ever lost, and we have had as much as 100,000 barrels of production a month. For little fellows I think we did very well. We drilled six in a row at one time and they were all good. We cemented them all. The oldest operator that came to the Louisiana fields is Mr. Harry Parker. He got a 10-barrel well offsetting a 4,000-barrel well of ours, so we claim that we know our business, and we told him what we did. He used an old method that they used in West Virginia, and didn't get

(Testimony of John Bird.)

away with it, that is, plugging back. He plugged back and missed it.

Q Your understanding then is that when you agree to pay Halliburton $250 per well for cementing in the future, that he will use this mixer that mixes the cement so rapidly and will also use the plug, and that by agreeing to pay that $250 you will not be required to pay anything additional for the use of the plug or for the use of the mixer, is that correct?

MR. LYON: That is objected to as incompetent, irrelevan and immaterial and not proper cross-examination.

A Nothing has been discussed with us regarding the use of the Halliburton system whatever—whether we should pay for it or not. We never paid for anything. I will pay him for every well that he cements for us.

Q Your understanding of the agreement then—this proposed agreement—is that if you employ Mr. Halliburton to cement the wells at $250 per well, that you will not have to pay any past damages or royalties for past infringement, is that correct?

MR. LYON: Same objection.

A My understanding was when the suit was settled with the Standard that was the end of the proposition when this agreement was reached, and I have discussed nothing with anyone regarding whether we got to pay anything or not for the wells that we cemented ourselves prior to this lawsuit. My understanding is it is all settled now and we just rub out and start over again.

Q And your understanding is that in the future you have nothing to pay but $250 per well, and that the Halliburton Oil Company or Halliburton will perform all

(Testimony of John Bird.)

services in connection with the cementing of the well without any additional charge, is that correct?

MR. LYON: Same objection.

A Yes, we pay $250 for each well that they cement for us and nothing in addition for the use of this mixer. All that we are interested in is getting our wells cemented. To properly cement them, he knows the cement game better than I do. He can use whatever he wants to out there. I know what is supposed to be a good cement job. That is all I know about it. I have nothing to do with Mr. Halliburton and the Standard Oil Company. I am not interested in the litigation. I would be interested if Mr. Halliburton would start suit against me for past damages and profits; I would be interested to protect my rights just as he would do his. I have never thought of a suit against me for infringement of the patent.

Q You do understand, do you not, that if you have been infringing to the extent that you say you have that you would be liable for past damages and profits?

A Well, anybody else would that infringes on a man's patent. I am interested in a couple of patents myself right now.

Q You do understand, however, that this settlement with the Standard is to settle this controversy for the future, and that you or any of the other independent operators will not be bothered with any past claims for damages and profits?

MR. LYON: Same objection.

A I told you that candidly I don't know what the basis of the settlement was except what I read in the paper, and

(Testimony of John Bird.)

I never saw one of these contracts that the operators are going to sign.

Q What do you understand this contract is that the operator is going to sign?

MR. LYON: Objected to as incompetent, not the proper method of proof, and not proper cross-examination.

A I wouldn't venture to say until I see the contract, then I would give you my opinion on it and that wouldn't amount to very much. I talked with all of the operators as soon as the settlement was made; it was up and down the streets here. I talked with practically every man here that is doing any work out here in the field. Everybody seemed to be satisfied with the settlement.

Q You mean that this contract with the Standard was a settlement.

MR. LYON: Same objection.

A I don't know what contract Mr. Halliburton made with the Standard. I was very glad that the proposition was settled as it was. The basis shows on the face of the compromise what the operator will have to pay for having wells cemented, and that is all I am interested in. I am talking about the newspaper article.

MR. LYON: All of this is objected to and motion is made to strike as incompetent, and not a proper method of proof and not proper cross-examination.

(Witness produces newspaper article in El Dorado Daily News for Sunday, September 13, 1925, entitled "Compromise On Casing Cement Suit, $75 Well," which is marked by the Notary as Exhibit Newspaper Article Produced by Witness Bird, and the same is as follows:

(Testimony of John Bird.)

"Compromise on Casing Cement Suit, $75 Well. Standard of Louisiana, Sued for $3,000,000, Settles with Halliburton. Water Control Patented. Process of 1909 Substituted for Loose Cement a Pressure Feed to Check Water Flow.

"Settlement by compromise of a $3,000,000 suit instituted in Federal Court at Texarkana by the Halliburton Oil Well Cementing Company of Los Angeles against the Standard Oil Company of Louisiana, grants the plaintiff the virtual right to collect $75 on each oil and gas well drilled in the state, according to Halliburton officials here last night.

"To avoid a court hearing on the suit, set for an early date before the Federal *H*udge at Texarkana, and after months of study on the legality of his claims, according to Erle P. Halliburton, president of the cementing company, who arrived here yesterday, the Standard has signed an agrement to pay the plaintiff $75 per well for the right to use the Perkins method of cementing casing in oil and gas wells. Since this is the only method used in any oil field in the world except in India, Halliburton said, it is believed that all South Arkansas oil operators will accept the contract offered the Standard of Louisiana.

Asked 3 Millions.

"The complaint of the Halliburton Company, that the Standard of Louisiana as well as all other oil companies operating in this district were using the method of cementing covered by patent rights held by Erle P. Halliburton and the Perkins Oil Well Cementing Company contrary to the regulations of the U. S. Patent Office, was made before the Federal court February 14, 1925. Halliburton

(Testimony of John Bird.)

alleged he was entitled to all profits accrued by the Standard from the wells that company had drilled in Arkansas and Louisiana, and placed his claim at the nominal figure of $3,000,000.

"Halliburton, in his suit against the Standard, based his claim on U. S. Patent No. 1,011,484, granted to A. A. Perkins and Edward Double, both of Los Angeles, in 1911. Halliburton now shares with the grantees the rights of the patent, which specifies that until 1928 the owners shall have absolute control over the use of cement, where a plug is used with it, to shut off water in oil wells.

Checked Water Flow.

"The patent was taken out after Perkins, an old Pennsylvania operator, and Double, president of the Union Tool Company, had perfected the method to control a water flow encountered in wells drilled in the Midway, California field. Cement had been used prior to that time, but had been merely dumped into the casing, and under the terrifice water pressure it was found that loose cement in the bottom of the hole was ineffective. Perkins, according to his application for the patent, filed in 1909, invented the method of forcing the cement into the casing, through it and around the outside from the bottom, under pump pressure. A plug was used by Perkins as a barrier between the water from his pressure pump and the cement, and it was on the simple plug idea that the patent was granted. The original idea, which is covered by the patent, has not been abandoned in cementing casing in wells drilled today, and it is this fact which was the basis of Halliburton's claims against the Standard. Under the simple Perkins method no extra machinery besides the

(Testimony of John Bird.)

pumps, which are a part of every rotary drilling rig, is required to cement a well, and every operator in the fields uses the principle. The cement is first poured into the hole, a plug made of wood and just the size of the casing is placed immediately on top of the cement, and the pump pressure then forces the plug to the bottom of the hole, pushing the cement around the outside of the casing.

Forced Compromise.

Basing his application for the patent on this idea alone, Perkins was given the rights which were later upheld in California and Oklahoma courts. On every well drilled in those states since 1911 he, or his co-operator, Halliburton, has collected a royalty, and when they discovered several years ago that Louisiana and Arkansas operators were using the principle without their authority, steps were taken which resulted in the Standard compromise.

"In the contract Halliburton entered with the Standard the latter company stated that his claims to the right were recognized as legal, and that the agreement to pay the cementing company was entered solely to avoid payment of the immense amount to which Halliburton might justly lay claim, on the thousands of wells already drilled in the two states. The cementing company was represented in the proceedings against the Standard by Attorney Leonard S. Lyon of Los Angeles, a patent specialist, who is here with the head of his company. Mr. Lyon said last night that more than 7000 wells had been drilled in Arkansas and Louisiana, and that the courts would uphold Halliburton's claims to all oil produced in the district. He declared, however, that the alternative given the Standard of paying the $75 royalty on wells drilled in the future

(Testimony of John Bird.)

instead of paying for their failure to observe the rights of the patentees in their past operations, would be offered other operators in this field."

September 23, 1925. 9:30 a. m.

Q BY MR. WESTALL: I understood you to say that it was your understanding of the agreement that if $250,00 per well were paid for cementing to the Halliburton Company that the operator agreeing to so employ Halliburton would not be required to pay any past damages or profits for the use of the process. Is that your understanding?

MR. LYON: All questions asked this witness on cross-examination concerning such arrangement are objected to as incompetent, not proper cross-examination, not the best evidence, and motion is made to strike all answers thereto, and with the understanding of counsel, this objection and motion will not be repeated, but will be understood as going to each such question and answer.

MR. WESTALL: That will be the understanding to avoid the necessity of repetition.

A We have never been—in fact, I have never discussed the idea of contract, as I said yesterday. We are willing to pay $250.00 per well. Understand it, I said yesterday, I am not a member of the Mid-Continent Oil Men's Association, the Independents, as they call themselves. We never received any benefits from it, and we are going ahead on our own hook like a number of them are. Now, what contracts will be presented or we ask for we will probably accept them in due time. $250 is the price of cementing a well. I understand and have understood that we will be permitted to make a contract with

(Testimony of John Bird.)

the plaintiff in this case, Halliburton Company, whereby if we employ him to cement wells we will not be bothered for past damages and profits for our infringement. I say we have never been presented with any such agreement in writing yet; I expect we will. Nobody assured me that any such contract would be offered to us. That is plain in the settlement with the Standard that they made, and it is authenticated by the item in the newspaper which is very clear. Everybody understands it that I have talked to. I didn't see the Standard Oil Company contract. I know the settlement has been made. That is their business, not mine. I know a number of agreements have been signed here between operators and the Halliburton Company. None of them have been presented to me yet for signature. We are not ready to cement so we are not interested in the contract yet. I have not yet seen any one of these contracts or proposed contracts with the plaintiff company. There is only one contract that they make with them. That applies to the independents or anybody else. The case with the Standard is settled as far as I know. I did not see and read and examine this contract with the Standard Oil Company or with anyone else.

Q Then how do you know that Halliburton Company will accept or offer you or anyone else a contract to cement wells for $250 and to waive all damages for prior infringement?

A Well, I accept that article in the newspaper as being authentic. It is an interview with Mr. Halliburton personally regarding the case as it stands, and that is all I know. There is nothing in that newspaper article, which

(Testimony of John Bird.)

is set forth above, about $250. I think that is the price that Halliburton charges us for cementing. No one has said anything about Halliburton waiving past damages and profits if we employ him to cement wells for $250, and nothing of that kind appears in the newspaper article. Halliburton is running his own business; if he raises the price and we want the work done, we will have to pay it. $250 is the set price. Everybody knows it. You can ask a roughneck out here; you can ask anybody that. There has been no argument about that that I know of.

Q Were you present at many wells during the operation of shutting off water in 1908 in this field?

A I was in Caddo in 1908, not in this field. I stayed there continuously, was in and out of the field all the time. I observed a number of the operations of attempting to shut off water in 1908, quite a few—several wells. I tried to see as many as I could. I wouldn't like to set any number without checking myself up. I know I went to a number. I know I went to see more than one or two.

Q You don't know whether you saw as many as five or six in 1908 in which it was attempted to shut off the water?

A Well, I would have to kind of check myself up a little. My recollection is very good if I take time to refresh it. Before testifying in this case, I have taken some time to refresh my memory as to what I observed in 1908 and '9. I did not come here and give a statement some days ago; I gave no statement at all. I have been in El Dorado, I guess, one hundred times since the field came in. I go backwards and forwards—come up here and stay for four or five days and sometimes two weeks at

(Testimony of John Bird.)

a time and then I go home, according to what I am watching out for. I have stayed here this time two weeks, and when they finished coring that well out there I went home and spent Sunday and here I am back again. I have not been compensated for the time I am putting in on this case here.

I am not interested in the Halliburton Company in any way, only in getting them to cement wells whenever we need them. We have been cementing our own wells until Halliburton came in the field here.

Q You have not yet signed the proposed contract of settlement, have you?

A I told you a while ago, I have never seen a contract. I expect if everybody gets them, we will too. I was never approached in regard to testifying in this case. I met Mr. Halliburton and told him that I had been here a good while, and if there was anything I could do for him I would be glad to do it.

MR. LYON: The question is broader than merely Mr. Halliburton's end of the subject. Does your answer hold good as to any other interests approaching you, such as the Standard Oil Company of Louisiana?

A Yes, they asked me and I told them I wasn't interested in the proposition because I didn't see any cementing done in 1908, '9 and '10, so they didn't want me. That was long before the compromise.

I am not related to Halliburton directly or indirectly, or to any member of his family. Judge Milling and Mr. Snell talked with me on behalf of the Standard Oil Company. They both discussed the question with me as to what I had seen in 1908 and 1909. They knew I had

(Testimony of John Bird.)

been in the field a long time. I was in the field when Mr. Cal Clark, the vice president and general manager, was a gang pusher on the pipe line. He knew that I knew something and knew that I had a lot of records because I used to exchange what we called "scout sheets" with the Standard. I gave them whatever I knew what was going on and they returned the courtesy by giving me all the dope on their wells. The same applied to the Gulf and Texas. Judge Milling asked me if I had an old Busch-Everett map showing the field between Vivian and Hosston, and I told him I had one that Walter Dickson had given me, and I told him I would be glad to loan it to him. In those days we made maps with the number of the well, the date the well came in and the initial production on that well, and we had a perfect record, and as the field grew we reduced the size, and used to keep what we termed a "scout sheet" and that map I loaned to Judge Milling, and I believe he still has it, and the man who gave it to me was killed a few weeks ago, Walter Dickson, by a derrick falling on him. Judge Milling and Mr. Snell discussed with me what I had seen and what I knew about shutting off water from wells in 1908, '9 and '10; we talked in a general way regarding the number of wells. Our discussion was just in a general way regarding the field. What they were interested in was getting old records away back. I want to tell you now we had a fire in 1910 at Vivian and with the exception of a few things we grabbed up in our office, we lost all of our original transcripts. They were available at several offices of the different companies. I think they got some of the data from the Texas Company, if I am not mistaken. I told

(Testimony of John Bird.)

Judge Milling and Mr. Snell very frankly that I didn't see any cementing in 1908, '9 and '10, only the siphoning of cement and setting of surface casing. There was no plug method used in those days that I knew of or that I heard spoken of by anybody else.

I knew Walter George, Hearne Harper, Wesley Jordon, Fred Kyle, Harmon Mahaffey, D. C. Richardson, Walter G. Ray, W. C. Wolfe, and J. R. Crawford, at the time. I knew them when some of them were first starting out as roughnecks. They are not all operators. Some of them are still where they were years ago. They were all in this field at that time from time to time. They were in and out and drilled a few wells, and got out and come back and drilled some more. I don't know what those men have testified about this plug method in the early part of 1909; I don't know anything about their testimony. I know from conversations that I had with them that they claimed that that was the fact.

Q You have discussed this matter, have you not, of methods used for shutting off water from wells with many of the men and perhaps all of the men that have been mentioned, haven't you?

A No, I never discussed it with Billy Wolfe or Slim Crawford. Until this case came up I never heard of them using a cementing system; then I understood that they used it. It wasn't in common use in 1911. The first time I saw a plug used was in 1912—the latter part of 1911 and spring of 1912.

In 1908 they had water trouble in practically all the early wells around the lake. I could look up and dope out for you the names of wells that they were attempting to shut off the water in 1908. Nearly every operator had

(Testimony of John Bird.)

trouble with water. There was over 7000 wells drilled, and to pick out an individual well instantaneously is a difficult task.

Q Well, now, how about 1909? Can you mention any wells at which you were present and where you saw them shutting off or attempting to shut off water on?

A Well, I used to go from well to well, and sometimes I would get there when they were in trouble, and sometimes they would be going all right. As to picking out an individual well just right here now, what well would you want to refer to and I would tell you whether I was there or not. You ask me what well you want to know and I will tell you what I know about it. If I don't know, I will tell you I don't. Tell me the date it was drilled, what you want to know about it, and I will be glad to tell you. I can give you an inventory of the Caddo oil field right off the bat. State some specific well and if I don't know I will tell you. That's the best way to arrive at it. You are asking the questions in a blind method and you don't specify any particular well, so I can't tell you.

Q I am asking you and repeat the question for the sake of clarity if you can remember any well that you saw or that you were at during the time it was attempting to shut off water in 1909.

A They were working on a number of wells around Vivian, the Powell well, the Christian well, that Blackman well, and that's quite a number. Do you mean when they were setting the casing and finishing the well, or when they were drilling it? We have three water levels in Caddo. We have one at 92 feet, 385 and 960. The shallow wells between Vivian and Hosston produced oil any-

(Testimony of John Bird.)

where from 980 to 1020. They got water sometimes at 985, sometimes at 960, according to your location. It came in a big high ridge, and as you sloped off into the bottom your depths were shallower, and as you got onto the ridge like Bailey #1 the wells were deeper. Most of those wells in the shallow district made quite a little water. I have a distinct recollection of being actually present during the cementing of some of those wells. I was at the Barr #1. I was over at the Powell well, and at the Waukenspecht, and others I don't recall. I say if you state the well that you want to know about I can tell you whether I was there or not. I tried to get to all of them. It would be a task to recall just what I actually remember having seen in 1909. I can get you some dope on it. I made the rounds of the field and watched the operations, because we were interested in leases close to all these wells, and were buying and selling stuff, and we wanted to keep tab on them pretty closely. If a well was a good producer, our stuff was worth something, and if it wasn't it wasn't worth anything.

The Wanukenspecht well was a failure down on the Bayou. The Powell well was drilled in 1909 by the Wolfe Drilling Company. I was there when they finished the well and the well wasn't cemented. They didn't cement it at all that I knew of. I never heard of them cementing it and I never saw any cement out there. I don't know anything about what they might have done. I was sitting right there on the Barr #1. They didn't cement that well. They put—that was the well that Jim Clark was on—they cemented that and put a sack of shale in it. There was no plug used there—I mean wooden plug. The

(Testimony of John Bird.)

first plug I saw, I saw it turned out in a machine shop by old Dad Walker for Bob Allison on one of the Stiles wells, and I went over and watched them. That was in the spring of 1911, I think it was. That was down in what we called Boyters Lane. I saw this plug over at the machine shop, because they discussed it and drew out the idea and Dad Walker had worked for me as a blacksmith, and he told me at breakfast time that he was going over to the machine shop and turn this plug, and that they were going to cement the well, and I told him I would drive him out there, and I spent the day out there. I testify positively that was the first time I ever saw a plug. It was new to me; that's the reason I went out to get the dope on it. I don't know that they actually made rough plugs by hand long before they made that machine plug. We made them roughly ourselves after that. I have whittled them out myself in the woods—chopped them out with a hatchet or axe. Mr. Allison got hold of the idea of the plug from some man who had seen this plug used in California. That was the discussion at the time. That was told me by Walker then. I would say it was along—that well I think came in in March, 1911. I can tell you by looking in this book. I will show you the picture and tell you the exact date and the initial production on that well. I think I have it in here; I am not quite sure. (Referring to papers) That is not the one; this picture is of the big one that came in in 1912; I thought I had a picture of the 1911 well in here, but I have not. I think it was in May that Mr. Walker showed me that machine plug and we had the discussion; it was in the spring of 1911 because it had been raining and pouring down. We

(Testimony of John Bird.)

had been almost shut down on account of April rains. The roads were bad for about thirty days.

Q Now, what other well were you actually present at in 1909 and observed any of the operation of shutting off water? I mean setting casing.

A Well, I have watched a number of them siphoning cement and mess the wells up. I never saw any cementing done until I saw this plug method used, outside of siphoning. I will look up the dates for you of those I was present at during the operation of setting the casing. I can give you a tabulation of probably a dozen, if you wish. I will write you off a list of the dates and whatever information I have, if that will help you any. There was a number of wells drilled in 1909, and if you wish any specific well I will give you a few of them of 1909 that was right in the vicinity of Vivian. Powell #1—that was in March, 1909. I am referring to a note book which I have before me. I kept books on these wells, and you want a specific date and the number of the well. Now, I don't carry figures like an adding machine. I am no freak. I want to give you the exact date and I will tell you the truth about it. I will tell you what I know about it. I put it down and brought it here for that purpose, and when I say I was on one of them I was on one of them too. I furnished this data to the big companies. They let me read it off to them. That is statistics. You can't expect a man to answer your quesions off hand without having considered it.

MR. WESTALL: Let the record show that the witness has before him some note book and the question calls for his unaided recollection, and the record should further

(Testimony of John Bird.)

show that the witness had held the note book open before him during this entire discussion.

THE WITNESS: No, no, I just opened it just now. You may have this information, if you want it. We have referred to these scrap books and other books. I thought you wanted the reference and I didn't think it was—

MR. LYON: The notary is requested to note that there is on the table in front of counsel a scrap book of the witness containing newspaper articles and clippings of various kinds, all relating more or less to the Caddo field, but beginning apparently, so far as the date of items are concerned, around 1911 or 12. We have no objection to counsel inspecting the witness's scrap book if he so desires.

THE WITNESS; I would like to call Mr. Westall's attention to a drilling report with over a hundred wells, and I can't remember any individual well there, just to pick out, unless it is mentioned to me. I can run back to that well and tell you exactly if it is mentioned.

MR. LYON: The continuance of this line of cross-examination is objected to as an abuse of the privilege of cross-examination, as an attempt to evade bringing out the actual facts in question and as an unfair attempt to compel the witness to set forth a list of the wells drilling as far back as 1909 in a field where there were at least a considerable number of wells drilling. The witness has stated that if any particular well be referred to and he be given an opportunity to turn over in his mind the facts of that well, he can give what he remembers. He has also stated that he remembers a number of wells, but obviously it is unfair to ask him to recite each and all wells drilling

(Testimony of John Bird.)

in that particular year. However, we will ask the witness to answer the question of counsel at least to the extent of naming a number of wells inquired about as illustrations.

MR. WESTALL: Let it appear that after having asked the question to be repeated to the witness, and after the witness was instructed to put the note book aside he again took the note *h*ook out of pocket and opened it.

THE WITNESS: I didn't even look at it. I was going to offer you this paper I had, and I have put the note book back in my pocket.

(Question read as follows: "I didn't ask you for whatever information you had. I asked you to mention from your unaided recollection, if you can, the wells that you positively remember that you were present at during the operation of setting the casing in 1909, and if you can't mention them specifically from your unaided recollection, I ask you to say that you can't."

A The Powell well was drilled in 1909. Is that what you want to know? What do you want to know about that well? I ask you this, to state specifically what well you want to know about and I will tell you what I know about it. I want to go as I have some business to attend to, and you are stalling around. Tell me what you want to know about a certain well and I will tell it to you. Let's get down to business because I want to hit the ball. You can't get me mixed up on them for I will just tell you I don't know, and if you want to get some dope on it I will go get it. You already know the names and the numbers of these wells, and if you want to know something about them, ask me, and if I wasn't there I will tell you so. I was interested in watching the progress of all

(Testimony of John Bird.)

the wells around Vivian because we had invested quite a sum of money in the Christian Heights subdivision and it meant lots to us.

(Question re-read.)

THE WITNESS: I told you that I had practically watched every well around Vivian. Some things I seen and some I didn't. Now, what did you want to know what went on on that well, and I will tell you? I told you that I had been on the well. Now, what do you want to know what happened? A drilling operation is from thirty to forty to sixty days. I don't mean that I just set there from the time they started until they finished it. I scouted the well, if you know what scouting means. It was only about four miles around Vivian from where all the operations were going on in the Caddo field. There wasn't much traveling to be done. There were not very many wells; just starting in there. It was when the operations just began practically. I couldn't answer exactly how many wells were drilled all told in 1909. My memory is not an encyclopedia, but there were a number of wells drilled around there and a number of locations made. There were three or four wells drilled at a time around there. I couldn't tell you how many all told without making a reference to it. There was no thousand. I have seen times when there wasn't any drilling there, not a well drilling or a rig running. I have seen times when there was a hundred drilling. Now, what specific time do you want and I will tell you.

I visited quite a number of wells in 1909. There was a number drilling around Oil City, down at Mooringsport, out at Monterey, up at Caddo City, Pine Island, Lewis

(Testimony of John Bird.)

and Vivian. I expect I visited twenty-five or thirty wells or maybe forty wells and observed the operations on them in 1909. I am not quite sure. There was quite a number of rigs running. I don't think I visited as many as fifty wells. I put that forty as a big, long number, because that is a whole lot of wells. Some of them I didn't visit at all and I missed a few of them, say, one or two wells that nobody didn't know very much about. I tried to get the dope on everything. Those thirty or forty wells were all the wells that I knew of in that vicinity in 1909. That covered all the operations up and down from the Lake to what we called the Vivian field. That is an area about 20 miles by, oh, 8 or 10 miles across, according to how you went. Vivian is 33 miles from Shreveport, and Mooringsport is 20, and out to Monterey is about 7 miles, and then there was a number of gas wells drilling at Shreveport at that time that we checked. I have included all those wells within the 30 or 40 that I mentioned as having been visited in 1909.

Q How many times did you visit each one of those wells? Approximately.

A My, my man, what are you trying to get at? Gee whiz, that is childish. I have been out here in this field and I have been backwards and forwards to Louann, I couldn't tell you how many times, and if you want to know some specific thing that I did on some trip or some well, I will tell you. We didn't have any average number of times that we visited any particular well. I will give you an instance. In going to a well I would probably pass five drilling rigs and ask them how they were getting along, and then I would pass them again in the afternoon

(Testimony of John Bird.)

and ask them how they were getting along again, and then maybe I would eat dinner with the driller and ask him how he was getting along that night. I couldn't tell you all the different conversations and the number of times I visited them. We would get off, walk over and maybe get a drink of water and ask Jake how he was getting along.

Q When you were asked to specifically mention any of the wells that you remember in 1909 that you visited out of the thiry or forty, you have mentioned three, viz., Barr #1, Powell #1 and the Waukenspecht.

A I told you others, and if you want to know, please tell me what well you wish to know about and I will see if I can tell you. I didn't say I was unable to mention any more than those three wells. I can call you off a hundred wells probably you wouldn't be interested in if you want the names and numbers of them. You ask me what well you want to know about and I will tell you about it, and give you a little instance, if you want that. There is 160 wells on the Gulf that I scouted and 214 on the Stiles and Cunningham. Now which well do you want to know about? I can tell you about it by looking in my book.

Q I asked you yesterday if you knew the names of any of the members of the crew on the Powell well and the Barr well and the Christian well, and I believe you stated that you didn't remember without reference to your books. Have you since referred to any memorandum?

A No, I haven't looked up any. I knew nearly all the boys who were working out in the field there from one well to another. There is probably three or four hundred

(Testimony of John Bird.)

men working out in the field. I have mentioned three wells. Billy Wolfe had the contract on the Powell well, Slim Crawford was drilling on that well, I think, and Walter Ray on the Powell well. I was present when the casing was set on the Powell well. I guess there was forty or fifty people from Vivian that went out to see the casing set. Billy Wolfe was there and the crew was there. Slim Crawford was there. I don't know who was firing the boiler or anything like that. We didn't keep the dope on the drillers and roughnecks. I saw lots of people there. I remember distinctly seeing Billy Wolfe and Slim Crawford at the Powell well at the time the casing was set. Billy Wolfe bought his shop that he used to keep all of his tools at, and I sold him the property, and I used to see him every day, Searcy was out there. He was the cashier at the bank—E. C. Searcy. I think he is up around Vivian, or somewhere around there now. Frank Powell was out there. I think I saw him out there at the time the casing was set. There were two or three drillers that were hanging around town and several fellows that were trying to get jobs that I knew of walked out there to see what was going on, and nearly everybody that could get away would want to go out and see what the well looked like. Walter Ray worked on a number of wells around there. I do not remember the names of any other persons who were present at Powell #1. That ought to be plenty, I guess.

Powell #1 was not cemented. I do not remember the exact date when the casing was set on it. We got there when they was finishing the setting of the casing. They said they were through with it, and we stood around there

(Testimony of John Bird.)

and talked and came on back to Vivian. You can't actually see casing set because it is down under ground. They said they had set it.

I visited Christian #1 well I guess thirty or forty times. I was present at the time the casing was set. I went over to Mrs. Christian's house and asked her how they were getting along with the well and told her I was going out there that afternoon. We had several fellows who went out there. They were setting the casing when we got there. I understood they set that casing in gumbo. I understand it by talking to the men working on the well and men scouting the well, just like you would ask anybody. They told me that that is the way it was set. I accepted that and just went ahead. The well was finished and I went on then. I didn't see any cement set.

Q You don't know, as a matter of fact, of your own knowledge, whether they used a plug in that well or not, do you?

A There wasn't any plugs used at that time. They never used plugs for three years after that time. I arrived at that well after dinner. They were setting the casing then, and when they set the casing down on the seat they fiddled around then and said it was all right, and I came on in. I didn't sit there with my eye in the hole. There wasn't any secrecy about what they were doing. I sat around on a log and talked to different fellows just like you would do. They couldn't have put no plug in there and I didn't see no plug. If they had put a plug in there I would have saw it. They used to pile gumbo up on the side of the slush pit and save it, and

(Testimony of John Bird.)

when they got ready to set they would pump the gumbo in for a seat.

Q That doesn't answer the question. You said a little while ago that somebody told you that the casing was set in gumbo, that you had a talk with someone.

A Yes, I was with J. L. Clarkson, who rode out there with me. He was with the Louisiana Real Estate & Development Company, and he went out with me, so he arrived out there the same time I did. No one connected with the well had to tell me the casing was set in gumbo; I could see what they were doing.

Q A little while ago you told me it was set in gumbo because there was a discussion after the casing was set.

A I said when the casing was set and they said they were all set, I said, "Clarkson, let's go home." I couldn't remember the conversation or anything else. The crew all talked around in a general discussion like people talk anywhere where they are working on a well and going ahead with it. I don't recall right now any particular person connected with the well who said that that casing was set in gumbo. I told you that I saw the gumbo myself. I didn't have to ask anybody to tell me about it. I had enough savvy to see what they were doing.

Hearne Harper was on that well at that time; he was in partners with old man McCann and they drilled a number of wells. Walter George was working on the well. I don't remember whether I asked him or not, it has been so long ago. I knew nearly everybody that was working out there. I think Fred Kyle worked on that well. I used to see him every day. He boarded at the same place I did, and so did old man McCann. We used to take our meals

(Testimony of G. B. Bryant.)

there when we wasn't in Shreveport. Harmon Mahaffey was there. I didn't know him very well. He just came there. I know him now very well. I didn't know him well enough to talk to him like I did the rest of the gang. I didn't talk to him about cementing this job; there wasn't any cementing job there. They didn't set no plug in that well. They are kidding you. They didn't know how to use a plug then.

Q Do you mean to say that Hearne Harper, Walter George, Fred Kyle and Harmon Mahaffey and others who have sworn positively that they did use the plug on that well are only kidding us, as you say?

A It looks like they are, because nobody else was using it in those days. It wasn't within the range of possibility that they used one when I was not there.

Q I want to ask you how many times have you heard of them using sacks of shale for cementing outside of that one instance that you have referred to?

A That method wasn't considered good and they got off of it.

TESTIMONY OF G. B. BRYANT, FOR PLAINTIFF.

G. B. BRYANT,

called on behalf of the Plaintiff, being duly sworn, testifies:

My name is G. B. Bryant. I live at Calion, Arkansas. I am 53 years old. I am a well driller. I started at the working of the well business in 1903 as helper on a rotary rig at Saratoga, Texas. I worked in Texas until the close of 1908. I helped drill one wildcat well during that time

(Testimony of G. B. Bryant.)

at Welch, Louisiana. I worked at Saratoga, Batson and Humble in Texas, and during that time I helped drill a wildcat well at Hull, about the first well that was ever drilled there. It was for the Sun Company, and I don't remember just what year it was. It was sometime between 1903 and 1908. I worked at those different fields in Texas as they were discovered and drilled, except Humble. I wasn't in Humble at the early days, but I worked there in the later days of the field. I came from Humble to Louisiana. I did not work during all this time in Texas as a helper on a drilling rig. I was drilling; I went to drilling in Saratoga. I did not have charge of a drilling crew from then on all the time. Sometimes drilling would run short and I would go back as a helper, but I went to drilling in Saratoga. I drilled a number there too.

I can tell you all of the companies I worked for in Texas before going to Louisiana in 1908. I first went to work in Saratoga working for some contractors by the name of Daley & Moore, contractors for the Southern Pacific Oil Company. Then I worked for the Gulf people, and I worked for them a couple of years, and then I went to work for the Sun Company. I worked for the Gulf some in Saratoga and for the Sun in Saratoga and for the Gulf in Batson. I worked for the Sun Company again in Humble and I was working for them when I went to Louisiana. I went to Louisiana the last of December, 1908—the last day of December, 1908; I went to Mooringsport, but I went to work at Oil City. They are both in the Caddo field. The Caddo field was just starting up pretty good when I went there. The Gulf Company had

(Testimony of G. B. Bryant.)

discovered this Mooringsport field there, but there had been quite a bit of drilling done before that time.

The first work I did up there was for old Sam Hunter of the Caddo Oil & Gas Company. Billy Wolfe had charge of it. I set up a rig on a well that they already had drilled. It had been flowing, you know, and they wanted to bail it and clean it out some. That was the first work I done in the field. That was in January, 1909. I didn't work there but a few days and Billy Wolfe had bought a rig and was starting out to contracting, and I went down with the driller and went to help him on that rig. I did not work on the drilling of the well for Billy Wolfe. I didn't work there more than ten days. I got a job with the Gulf people under Melat at Mooringsport. I reckon I must have been with the Gulf Company a couple of months, drilling. I started drilling nights, and they finished the well in the daytime.

At that time I knew Roger Canfield. He came there a short time after I did. I was there sometime before he was, but he came there while I was drilling that well. He worked some on that well. He was kind of an extra man and just worked here and yonder. He wasn't a steady driller on that job. He was anywhere they needed him. I had seen Roger Canfield before that in Texas. To the best of my recollection they called that well the Nunley well, but I don't remember the number of it. I know how the pipe was landed or set in that well. We didn't use any cement on the well at all. Up to that time I had never been on a well that had been cemented. That Nunley well was started in January, and must have been finished in February some time, of 1909. After I set the

(Testimony of G. B. Bryant.)

6-inch and went to drill the well in, the 6-inch followed me on down, and we had to put on another joint and put clamps on it to hold it to keep from following. In other words, I had trouble with the seat on that well; it wouldn't hold. Then we drilled the well in and finished it up.

After that I went to work back at Oil City for Billy Wolfe. I drilled nights against Mr. Crawford. That well was down the railroad from Oil City, between Oil City and Mooringsport. That Crawford was called Slim Crawford. I don't remember his initial. The same as Crawford & Sebastian now here. I just don't remember his initials. I don't remember how long it took to complete that well. In them days they taken a good deal longer to drill a well than it does now. It must have been longer than thirty days. The pipe was not set in that well by cementing. I would judge that well was about a mile, maybe a mile and a quarter, might have been a mile and a half below Oil City on the railroad; I wouldn't say just sure, but somewhere about half way between the two places. It was pretty well up in the spring when that well was drilled; I couldn't say whether it was March or April or May. I know it was in the spring of 1909.

After completing that well I left the oil fields and went away—well, I didn't stay until it was finished. By finished I mean drilled in and made an oil well. It must have been pretty late up in the year, July or August, somewhere along there when I left the Caddo field, in 1909. I wouldn't say just positive what the date was; it was late in the summer. I went into San Antonio looking at the water well business. I stayed away from the Caddo field about two years. When I came back I stopped at Humble

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and worked awhile, and then I came back to Louisiana late in 1911.

Now I am familiar with the plug method of cementing wells. I didn't know of it until after I came back to the Louisiana field, but they were cementing in general everywhere by the plug method when I came back to the Louisiana field, that is, they were cementing in 1912. I never heard of that plug method of cementing when I was in the Caddo field in 1909. I had never heard of it being used before I came to Louisiana in the last of 1908.

Q While you were in the Caddo field in 1909, what was the custom, if any, among the workers there as to discussing the methods that were being used to land or set pipe?

A Well, you would usually hear of anything if there was anything new going on in the oil field—any new custom you would always hear of it.

I knew Harper & McCann. I knew Mr. Harper over in Texas before I went to Louisiana in 1908. While I was in the Caddo field in 1909 I did not hear or know of either Billy Wolfe or Slim Crawford or McCann & Harper using the plug method. McCann & Harper was contracting for the Gulf at the time I was there working for them in 1909, and if they done any cementing I never heard of it. I don't think the plug method was used in the Caddo field while I was there in 1909. It

me

looks to/like I would have heard of it if it had been used. I was working for the Gulf people there at that time, and they would have heard of it and used it if it had been known. They were doing more work at that time than

(Testimony of G. B. Bryant.)

anybody else, and they were in need of such an improvement more than anyone else. I never heard of it at all at that time.

While I was in Louisiana in 1909, I believe the Texarkana well was the name of the well where Mr. Crawford worked, for the Gulf Company; he was working for Billy Wolfe. I think when we went to set the 8-inch on that well we had some trouble about the rock, but I don't remember clearly what it was. I think we pulled out and drilled through the rock and set it deeper. That well was not cemented by the plug method. Now, understand, this was the well now that me and Mr. Crawford worked on, and I wouldn't be real positive about the name of it, but I think it was the Texarkana well. There was no cementing done on that well that me and Mr. Crawford worked on. I set the 8-inch casing myself, and Mr. Canfield was there the night that I set it, and there was no cement used. Mr. Canfield was assistant under Mr. Fred Melat at that time, but later on became drilling foreman. Mr. Helat was drilling foreman for the Gulf Company.

ON

CROSS EXAMINATION

Mr. Bryant testifies:

I am not employed right now. The last work I did I worked for Williams & Moore, out at Calion. I first came to El Dorado for Mr. E. M. Brown of Shreveport to drill a wildcat well in 1920. Outside of taking a trip to South America I have been here five years. I have been drilling wells around here in this field in different places. I worked at Louann, I worked at Smackover and at Griffin. I was drilling in 1920, and continued up to the present time. I

(Testimony of G. B. Bryant.)

haven't followed anything else, haven't done anything else. I don't remember what wells I worked on in 1918. I was down in Bull Bayou field. I worked on two different wells there; I couldn't tell you what names they was. It was in the winter time. I was away from the field in the early part of 1918; I was in Mississippi. I worked in the shipyards some in Mississippi for several months. Besides working in the shipyards and drilling I farmed. I was raised on a farm up to 1903. I have not done any farming since 1903; I haven't plowed a furrow. It was in the fall and winter of 1918 I worked on the wells I have spoken of. I don't remember as I worked on any wells in the summer of 1918.

In 1917 I was in Mississippi part of the time, and part of the time I was in Louisiana. I was drilling a well in Mississippi.

I worked on different wells in 1917. I worked on one below Shreveport. I worked on two wells; I don't remember the name of either one of them. They were for the Atlas Oil Company. It was in the early part of the year 1917. I wouldn't say that I have a good recollection for dates. I haven't trained myself up to remembering dates. I can remember very well. I haven't kept a diary or anything like that. These were gas wells that I worked on in 1917 down below Elm Grove for the Atlas Oil Company. One was out from Elm Grove and the other was at a place called Day. I reckon I ought to say I can remember and go back those different years and remember the different wells, because I remember I went from those wells over to Mississippi and shipped my rig over there

(Testimony of G. B. Bryant.)

in 1917. I came in below Mansfield then in 1917 and drilled a well down there.

In 1915 I was on the Lake up there, different places. I wouldn't say I can remember at this time where I was. I was in the employment of the Atlas Oil Company, and I worked part of the time at the Lake and part of the time down Red River and at Gahagen, but I didn't come up here to give a general history of my oil field life. I can't give it to you without thinking about it. I would have to have time to think it over. I could do it if you give me time to do it, but I can't do it on the impulse of the moment. I would like very well to have a history of my oil field life and the wells that I worked on, but I haven't it. Anything where I started in at I have got a very clear memory, I mean a new well. You might ask me about some of these wells I just worked on at Louann, and I might not be ready to give you the ready information right quick and then. When I started working on these different wells I could remember each well. I come up here to Calion in 1920 and started that well on August 20th. I got a cut on a big tree there, and I could go and look at it. I can give you that information quick. I didn't cut any memorandums on different trees. I told you a little while ago that I didn't keep any diary. I don't believe you want to know anything about cementing, I think you just want a history of my life.

In 1914 I went down the Red River and worked on a well for H. J. Parker. We drilled a well in—the first well that was drilled on that side of the river. That is in 1914.

I am not being paid; I haven't been offered a copper cent by anybody for testifying in the case. Hasn't any-

(Testimony of G. B. Bryant.)

body offered anything and I haven't charged anything. However, I don't care to be questioned about little things that I have done that long time ago. It is not difficult for me to remember about this cement business and that is what you want to know. It is not difficult for me to remember about the cementing business, for that is a very important thing, and any man should remember the first well he cemented. It was entirely new to me until I got it from somebody that had had experience with it. I haven't kept any record of what I did in the years from 1909 on each year. To be sure that I can remember everything that passed, I can't say that I could, but things of any importance that occurred I can remember.

Q In other words, if you were trying to tell what happened in 1914 and 1915 and 1916, you might, unless you had a chance to refresh your memory, easily make a mistake as to a date, might you not?

A I have told you that I went down Red River and drilled that well. Didn't I just tell you that I drilled that well for Mr. Parker in 1914? That was the year the Germans declared war against the world. It was in August, July or September.

Q Now take 1916, for instance, you couldn't start to say what you did in January, February, March or April, 1916, without looking at some memorandum or refreshing your memory in some way?

A If there was something interesting that occurred during that time I could. I don't suppose there is a man living that could just take a year and tell you everything that occurred during that year. If there is such a man, I would like to see him. I was working in the oil fields in

(Testimony of G. B. Bryant.)

1908 and 1909, and as I told you, I came to Louisiana then and there is where the cementing first started that I ever knew of.

Q Did you look up these dates?

A Only by memory of what I had of it. I remember that I arrived at Shreveport just like I told you, on the last day of December, 1908. After I got there, in 1909 the first well I worked on was that Hunter well I told you about setting up the rig and bailed it and it went to flowing again. We wanted to rebail it and get it to flowing again. That was the first work I did in Louisiana.

The next well I worked on was a well that Billy Wolfe had bought a rig and went to contracting on. I couldn't say for sure what the name of that well was, but he was drilling a well for the Gulf. I couldn't say how long it took. It took a good deal longer then than it does no*t*—I suppose thirty or forty days. That was in January, the one for Billy Wolfe. That was the first one I worked on after I bailed the well for Mr. Hunter. I only worked there a short time—ten or fifteen days.

The next well I worked on was a well for the Gulf people. I am positive where that was located. It was very cold weather when I worked on that well. There was a big snow and freeze when I was working on that well. It was the last of January or first of February.

The next well I worked on was back up at Oil City. I don't remember just how long I worked there.

Q How do you happen to fix the time when you left the Caddo field in 1909?

A Well, I told you I left the oil fields and went down below San Antonio to work in the water well business.

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My knowledge tells me that. Further than that, I believe I have got some books at home that would show that, but I didn't look at any. Mr. Canfield and I haven't discussed any of these dates at all. He didn't tell me they were anxious to prove what methods of cementing were used in 1908 or 1909; he didn't ask me anything about what they used in 1908 or 1909, either. He is not the one who told me first that they would want me to testify. I believe Bob Holland was the man who first told me about it. He is an oil man around the oil fields here. I think he has done some drilling. He was roughnecking on this well of Billy Wolfe's that I was working on, and that is how he come to tell me about it. Canfield wasn't working on it at all. And I believe Cy Blount is the next man who told me about it. He told me that if there were any old men that had worked back in the early days that knew about the cementing that they would like to know about it up here. I don't believe Canfield mentioned it to me until after I was up here and then he walked into the room. I came up here on my own accord. What I had to tell was just what I knew about it, and I haven't got anything else to tell about it. I don't know as it was explained to me what they were trying to prove, before I came up to this room, any further than they are trying to protect their rights, their patent rights, is the way I understand it. I don't remember that anybody asked me whether I could testify whether the plug was used in 1909, before I came up here to testify. I didn't have any conversation with Mr. Lyon or any of these gentlemen. I didn't know this man up here until I came up to the room. I told you two men had talked to me about

(Testimony of G. B. Bryant.)

whether cementing was done in 1909, Bob Holland and Cy Blount. They had both been up here and they knew that I had worked there in 1909. They didn't ask me whether or not I remembered whether they were cementing in 1909. That didn't concern them. They knew that I was working there on that well, and that they were not cemented. Holland knows, as well as I did, that they didn't cement the well. When I came up here I knew whether I was going to testify to what was done in 1920 or 1905. They told me that they wanted to know if I knew of any cementing being done before 1909.

Q A little while ago you said there wasn't any mention of any date before you came up here, didn't you?

A I ain't got any more to tell you. I tell you that right now. I have told you all that I know about it. I have told you the truth and I haven't told you anything crooked. I haven't crossed anything and I don't intend to cross anything, I tell you that right now. If you are trying to get at the point that Holland and Cy Blount persuaded me to come up here, they did not.

MR. WESTALL: It should be noted of record at this time that there are a great many remarks being made outside of the record which are impossible for the stenographer to get, as the witness has constantly interrupted questions and by constant talking during the time that I am attempting to put the quesions, has interfered a great deal with the examination.

MR. LYON: We stand on the record and object to the statement as incompetent and not founded in fact.

Q Now, you say you are willing to admit, are you, that they did mention 1909 to you before you came here?

(Testimony of G. B. Bryant.)

A I done told you all I knew about it now. Holland knew that I worked on the same well that Crawford did.

MR. WESTALL: We move to strike out the answer as not responsive to the question.

THE WITNESS: I gave an affidavit or statement regarding this matter on Thursday, the 17th. I don't think it was in this room. It was in this building. I believe it was this lady here (pointing to the notary) that I have the statement or affidavit to at that time. I believe Cy Blount was up in the room, maybe Mr. Canfield, and Mr. Bird. I don't think there was any one else. I don't remember that Mr. Lyon was here. Mr. Halliburton was here, but I don't think Mr. Lyon was present. I just made a statement to Mr. Halliburton. I never took any oath to the affidavit; I don't think I did.

Q Let me ask you what methods were you familiar with for shutting off water from wells in 1908 and '9?

A Well, we always set our casing in gumbo if we could get it, and that would hold the casing, and sometimes they used what they called packers. If they got water below the casing they would set another string of casing and use a packer, something like that. They had different kinds of packers. I didn't understand the siphoning method. My remembrance is they just poured it on the outside of the casing and let it go down. I never saw any of it done. My understanding is that they just poured it on the outside of the casing and the cement being heavier than water it went down.

I never talked to Mr. Snell about this case; I never met him.

The first time I heard of cementing an oil well was in the latter part of 1911 or in 1912 after I came back

(Testimony of A. G. Kelly.)

to Louisiana. They didn't do any of it in Texas. Everybody was cementing when I came back to Louisiana. They had been at it sometime before I got here. I don't know whether they started in the last of 1910 or 1911. I couldn't say about that date. When I came back to Louisiana and went to work, everybody was cementing.

Q Did you ever know of a method of cementing by using a sack of shale as a plug or indicator?

A Well, only when they put the plug in a great many of them would put in a sack of shale on top of the plug. I have done that. That is the only way I ever saw a sack of shale used, was on top of the plug. I use that sometimes and sometimes I don't use it, and sometimes I bundle up a bunch of sacks and don't use any shale.

I couldn't say that I had any knowledge of what they were doing in 1909 from July on in the Caddo field. After I left the field I didn't keep any right close records upon it after the latter part of 1909. I left in July or August, 1909, somewhere along there.

Q Are you sure it might not have been in June of 1909 that you left?

A Well, I just as well say it one way or the other. I know it wasn't in the fall of the year; it was getting pretty warm. It wasn't in May or June; it was later than that.

TESTIMONY OF A. G. KELLY, FOR PLAINTIFF.

A. G. KELLY,

called on behalf of the Plaintiff, being duly sworn, testifies:

My name is A. G. Kelly. I am fifty-one years old. I live at Shreveport, Louisiana. I am an oil field worker.

(Testimony of A. G. Kelly.)

I work in any of the departments of crews engaged in drilling oil wells. I first worked on a well drilling crew in 1901, I should judge, at Spindle Top, in Beaumont, during the Spindle Top boom. I have been in that business ever since. After the Spindle Top boom I worked at Jennings, Louisiana, known as Marmeau Prairie at that time. I went from there to Welch during the Welch boom, and then I went to Belle Isle, wildcatting, of course. From there I went back to Jennings and Marmeau Prairie, all the time working on a well drilling crew. Then I went to Sour Lake during the Sour Lake boom, and from there to Batson Prairie during the Batson boom. I went from there to Humble during the Humble *toom*, and then to Shreveport. There I worked in the Caddo field in northern Louisiana. I worked on a drilling rig there, for about four years, I should judge. From there I went to Mexico, still in the well drilling business, and *syated* there about four years. Since that time I have been in the well drilling business in different fields in the United States, and that is my present occupation.

I left the Caddo field and went to Mexico in 1910, I should judge in the fall of the year, I should say October.

While in the Caddo field I worked for Howard R. Hughes, contractor, and for the Producers Oil Company nearly all of the time I was there, except that one well for Hughes. I worked on different wells all around the Caddo field. The Producers Oil Company was the biggest operator in the Caddo field from the time I went there until I left for Mexico. The Gulf and the Standard were the next biggest operators.

(Testimony of A. G. Kelly.)

I know how they were setting pipe in the Caddo field during the time I was there before leaving for Mexico. They were having trouble with water breaking into the wells; that was a serious problem there. Their objective was always to set in gumbo. We reduced the hole and sometimes wet with a cut off joint and sometimes set with a shoe. For surface casing they set 10-inch, and sometimes 12½ at about 60 to 80 feet, and 8-inch casing at 600 to 800 feet, and 6-inch casing—I forget what depth they went with that, but that was the final casing going to the pay. The 6-inch served as the water string, that is, to exclude water.

I knew McCann & Harper in those days, and Billy Wolfe, very well. I knew J. R. Crawford, sometimes known as Slim Crawford. The Caddo field in those days was a rather restricted field. I am quite sure I was well acquainted with the different workers. Everyone around the eating table in those days would tell their troubles that they were having on their respective jobs. It was constantly discussed and how much gumbo they set in; whether they had a good or bad job, frequently having to pull casing and reset. Prior to my leaving for Mexico I had known them to cement the surface casing in the Caddo field by pouring it around the outside and picking up the casing so the cement would flow to the bottom of the string, and set the string down in the casing.

I am familiar with the plug method of cementing wells now. The plug method I refer to consists of setting the plug in the hole first the diameter of the casing and pouring in your cement mix on that, and when your mix

(Testimony of A. G. Kelly.)

is all in that you intend to use you put your second plug on top of that and then put your pump on that.

Q When did you first know or hear of such a method of cementing?

A Well, we discussed it in Tampico, Mexico, while I was there after leaving Caddo. I never knew of it or heard of it while I was working in the Caddo field. I did not hear of any method of cementing the water string or any other string while I was working in the Caddo field, in which a plug was employed or in which the cement was forced by the pump down the pipe. I helped set a good many strings of casing, and if it had been done it would have been done on the jobs on which I was employed. If there had been anything radically new like that then used there, it would have been discussed among the men.

ON

CROSS EXAMINATION

Mr. Kelly testifies:

It was 1910 in the fall of the year, I should judge October, when I went to Mexico; I know it was in the fall of the year. I was working in Caddo in 1908. I think I remember the wells I worked on in 1908. The Evans well of the Producers Oil Company, and I worked on the B. & A. for the Producers, and I worked on the Pine Island well. I am not so sure the name of that lease, but it was for the Producers Oil Company. That is about all the wells I recall now that I worked on in 1908.

In 1909 I worked on the Murray #1 for the Producers, and worked on another Pine Island well for the Producers, I think they were called the Watkins, if I

(Testimony of A. G. Kelly.)

am not mistaken. I wouldn't be so sure about that. It was for the Producers. I don't recall any others now. I worked on the Murray #1 well in the spring of the year; it was quite cold, I remember that. After that I went to Pine Island. I think after the Pine Island job I went back and worked on some of the older wells. The first one on Pine Island was in the summmertime and the second one was in the summertime; the weather was very good. They shift crews about from one location to another without completing the first job that you are on, so that it is rather difficult at this time to remember just what wells I worked on in the fall of 1909; I couldn't very well tell you that. I remember these others, the Murray and the Watkins, because of the weather conditions. The Murray was in the winter. Murray #1 of the Producers was south of what is now Oil City, right alongside the railroad track.

I never heard of a method of cementing using the single plug instead of two plugs until I heard of it in Tampico, Mexico, somewheres about 1911 or '12, we discussed it in there from the boys coming from California and from elsewhere in the States. I don't know whether it was early or whether it was in 1911 or 1912.

During 1909 I was a helper and a driller, sometimes helped and sometimes driller. During 1909 I stayed at Oil City. I never heard of cementing using a sack of shale as an indicator. I never heard of that method at all.

I don't know as I could state how many wells during 1909 I was actually present at during the setting of the six-inch casing. It took quite a while at those times to dig a well, sometimes several months. Let's see, I left

(Testimony of A. G. Kelly.)

there in '10. I am quite sure I was on Pine Island in 1909. We set casing on one well there something like three times to overcome water trouble. I couldn't specify positively the date and the year. I don't find it difficult to remember what happened at these different wells so long ago; it was part of the routine of my labor; it was so vigorous that you don't very well forget it. I am quite sure I was in Pine Island in 1909. I could be mistaken as to that year, but I am quite sure I was there sometime during 1909. We were transferred back and forth.

It could be within the range of possibility that I may be mistaken as to the year these wells were worked on that I worked on, but I made out most of the reports on every well I worked on, whether I was a helper or whether I was a driller, and that called for a daily usage of the dates and they naturally impressed themselves on me. I haven't examined any memorandums or data or logs of wells or anything to refresh my memory; I haven't been around the Producers in years. I am sure it was 1910 that I went to Mexico; I am quite sure of that. I couldn't very well be mistaken on that date.

The only method that I knew of of shutting out water in those days was setting the casing in gumbo. Using a packer was done after the casing was set, as a secondary thing usually. You set your casing in the ordinary manner at the depth you are supposed to go in gumbo, and after bailing it if you find out that you haven't cut off your water you pull this casing and re-set it sometimes using a packer. By pulling the casing I mean taking it out of the hole. I knew of the use of the packer in 1908

(Testimony of A. G. Kelly.)

and 1909 in the Caddo field. It was used extensively; it was used eventually on all of the wells.

After going to Mexico I returned to the Caddo field sometime in 1914.

I am not employed at the present time. My expenses for my time spent in giving this testimony were not paid me. I was employed up until last Friday with the Gulf Refining Company. Before being called to testify here about this case some men down around the Randolph were discussing it, and I think Mr. Bird asked me if I would come up here and see Mr. Halliburton. I am a friend of Mr. Bird. I talked to the drillers and oil field workers that were down around the Randolph Hotel. We have nicknames in these oilfields. One of them I talked to is Measles; my own is Dingbat. There was Fatty Ramsey and many others, and there are not very many men in this place who were in the fields at that time. I intend to stay in the oil field here now.

(All exhibits referred to in the foregoing depositions received in evidence and denominated as indicated in the depositions.)

TESTIMONY CLOSED.

STIPULATION

STIPULATED that the foregoing Statement of Evidence, Volume 1 of which consists of pages 1 to 480 inclusive, and Volume 2 of pages 481 to 893 inclusive, having been heretofore lodged and filed in the Clerk's

Office April 14, 1929, and withdrawn under stipulation and order of court of March 19, 1929 for the purpose of making corrections agreed upon by the parties, having now been corrected in accordance with such stipulation, may now be filed as a true and correct Statement of the Evidence, as part of the record on appeal in said cause, subject to correction if any errors should later be found therein.

Dated this 22nd day of April, 1929.

Frederick S. Lyon
Leonard S. Lyon
Henry S. Richmond
Attorneys for Plaintiff-Appellee.
Westall and Wallace,
By Joseph F Westall
Attorneys for Defendant-Appellant.

[Endorsed]: Statement of Evidence. Lodged Apr. 14, 1928 R. S. Zimmerman, R. S. Zimmerman Clerk. Filed Jun. 26, 1929 R. S. Zimmerman, Clerk, by Edmund L. Smith, Deputy Clerk.

[Title of Court and Cause.]

STATEMENT OF EVIDENCE

UNDER RULE 75 ON APPEAL FROM FINAL DECREE, BEING EVIDENCE BEFORE MASTER ON ACCOUNTING.

Los Angeles, Cal., April 24, 1928. 10 A. M.

(Appearances: For Plaintiff, no counsel. For Defendant: Joseph F. Westall, Esq.)

(Defendant produced, in accordance with order heretofore entered, all of the books and records of the Owen

Oil Well Cementing Company relating to subject of oil well cementing. Also a complete audit of the business of the company.

MR. WESTALL: In making this report, showing the information requested by the order, it is to be understood that we do not admit that any of the moneys received for oil well cementing in any way were the result or the effect of the infringement found by the Court. And we now, and shall later, set up as a standard of comparison what has been known as the no-plug system of cementing, the contention being, as shown by the audit, that we charged the same (2) amount and received as much benefit from the use of the old prior art no-plug method as we did from the patented method in suit.

(Books produced are as follows: Deposit book of the Union State Bank of Long Beach; stub check book of the Union State Bank; all cancelled checks of the First National Bank of Long Beach, and all check stubs of the cancelled checks; also other cancelled checks and deposit book of the First National Bank of Long Beach; work sheets of the Owen Oil Well Cementing Company, being reports of each job of oil well cementing; also ledger and journal of the Owen Oil Well Cementing Company. Said records show all activities of Owen Oil Well Cementing Company from the time it went into business up to the time of quitting when the injunction of the Court was issued.)

(Testimony of A. A. Perkins.)

May 29, 1928. 10 A. M.

(Appearances: Henry S. Richmond, Esq., for Plaintiff; Joseph F. Westall, Esq., for Defendant.)

(7) (Stipulated that the testimony of A. A. Perkins, William C. MacDuffie, Paul Paine and L. J. Whitney in the accounting before Special Master C. C. Montgomery in the cause entitled Perkins Oil Well Cementing Company vs. Wilson B. Wigle, F-70 Equity be received in evidence in this case with the same effect as though those four persons appeared in court and testified in this cause; that the conditions of affairs in the period of this accounting is the same as it was during the period of accounting in the Wigle case; and that the testimony of the witnesses would be the same if given now as it was when it was given in the accounting in that case. It is further stipulated that the defendants will be allowed to put in testimony in rebuttal to that of the testimony of the said witnesses, A. A. Perkins, William C. MacDuffie, Paul Paine and L. J. Whitney as given in the Wigle case F-70 Equity. It is further stipulated that this testimony shall be marked 'Plaintiff's Exhibit 1' on accounting and the same was introduced into evidence."

A. A. PERKINS,

called for Plaintiff, sworn, testified as follows on

DIRECT EXAMINATION

by Mr, L. S. Lyon:

My name is A. A. Perkins. I am the president of the plaintiff Perkins Oil Well Cementing Company, and am the A. A. Perkins who testified in this case before Judge Trippet. On the 1st day of May, 1921, I was

(Testimony of A. A. Perkins.)

employing the method of cementing oil wells described in the letters patent in suit in California. I was working through the plaintiff corporation. The operations of the Perkins Company covered all of California at that time. We had camps or trucks at different places. We had them at Santa Maria, at Ventura, at Coalinga, at Taft, at Whittier. At Whittier is our main plant, where we have a machine shop, where we repair our trucks, and we always keep enough outfits at each one of these plants so that there is no question but what when a man wants an outfit we can furnish it. An outfit is a truck with pumps and everything—mixing boxes and everything to do the work with, that we send out on every job. We receive calls at these operating stations from the companies that want cementing outfits. When a man was ready for a job he called up this plant, and there is a big board up there and it is put right down on the board—such a well to be cemented at such a time. At four or five o'clock or midnight, or whenever the pipe was landed, we were to have a truck there or an outfit there ready to do the work.

We furnished two men to do the actual cementing operation; they were employed by our company. They were expert cementers,—one expert cementer and a truck driver. We would have a telephone call or a call from the field to have a truck out there at a certain time, and our outfit would go out and would connect with the well and perform the operation and then leave.

We have either 20 or 21 of these outfits in California, I am not just sure. The cost of one of those outfits is between $8000 and $9000. At each one of the

(Testimony of A. A. Perkins.)

operating stations we have a garage to take care of these trucks, and we have houses for the men, for three, at our camps at Huntington Beach, Taft and Torrance.

I don't think from May, 1921, on we have given this service at all times to the oil fields in Southern California, at Long Beach, Whittier and Huntington Beach. I don't just remember what the date was when the Long Beach and Huntington Beach fields came in, but it was either that time or shortly after. As soon as the fields were ready we were there with our station. We installed an operating station in Long Beach. It is not the same character as I have described at Whittier; at Long Beach we rent a garage to hold our outfit; at Huntington Beach we built *on*.

From 1921 on to the time this injunction was served in this case, approximately 90 to 95 per cent of the cementing operations in these fields were performed by our company; but afterwards it was not quite so much. Our company had been conducting this cementing business under the patent in suit in the oil fields of this State from 1910 on. We would install a station or give that service to every field as it was brought in in this State.

Since 1910 we have done very nearly all of the cementing of wells for the Standard Oil Company of California. Once in a while a dump bailer or something like that, where they wanted to dump a little in, or something of that sort; but on regular work we have done all their work. We have done the work for the Shell Company of California I think about 6 years or 7 years, somewhere along there; I couldn't tell just the date. I could by the books, I could tell just exactly. That is the

(Testimony of William C. McDuffie.)

best of my recollection. We have done the work for the Associated Oil Company, all of their work, about 6 or 7 years.

We have a standard charge of $250 which we have maintained during this period of time for this cementing by the method described in the patent in suit. I couldn't say just positively how long we have maintained that charge, but according to my best recollection it is ever since we started in the business. We did give 10 off for a while, but when the material came up and we had to pay more we took that off. That was during the time of the war. Since May, 1921, we have had one standard price of $250 with this outfit. There are additional charges for truckage. We give 30 miles free; all over 30 miles is 25 cents a mile for the truck and 10 for the car. That is on long trips. The cementer goes to the well in a separate car from the truck. That is a tender for the truck.

In addition to our field stations we maintain our main office at 506 Union Oil Building.

(Witness temporarily withdrawn.)

WILLIAM C. McDUFFIE,

called on behalf of the Plaintiff, sworn, testified on

DIRECT EXAMINATION

by Mr. Lyon:

I am the William C. McDuffie who testified in this case before Judge Trippet. I testified on April 24, 1923, before Judge Trippet, that I was the general field superintendent of the Shell Company of California. I am now vice president in charge of production. That includes the

(Testimony of William C. McDuffie.)

cementing of wells for the Shell Company. I have been personally familiar with the cementing of wells by the Shell Company during the entire period of service with the company, I should say some eight or nine years; I don't remember exactly.

I have had experience in fixing royalties for the employment of patented inventions. My understanding of the Perkins patent is that it is a patent covering the use of plugs in pipe. Between the plugs there may be cement. The plugs are in the pipe and the use of cement is either ahead or behind the plugs; in other words, the use of a barrier, either in front or behind the cement, for putting the cement behind a pipe into a well. It is quite possible that I could best illustrate it. In describing the Perkins process I would describe somewhat in detail what happens. We will assume that the well has been drilled a depth of 1000 feet and that a primary or conductor string has been inserted in the hole in the ground and it has been cemented. Let us say that has been cemented and that we then proceed to drill, and drill a hole approximately equivalent to the inside diameter of the primary string which has been cemented or landed on down to a depth, let us say, of 3000 feet. We then insert inside through the primary string and down through the open hole another string of casing, which we will term the water string, assuming it has been carried down to a point above the oil measures approximately. When we have that casing approximately in we notify the nearest local department of the Perkins Oil Well Cementing Company that we have a well to cement. We designate to them the location of the well and the size of the string

(Testimony of William C. McDuffie.)

of casing, giving its weight. That outfit is then brought to the well. The necessary balance of the pipe has now been run in during the time the outfit has been notified, and it has arrived at the well. The casing is placed nearly to the bottom, within a few feet of the bottom, and it is located by lowering the pipe gradually until the bottom is found. Circulation is then started with the mud pumps down through this casing. As soon as that circulation is properly established the top connection on the well head is removed so that a plug can be inserted into the top. Then the capping or plug, or whatever the contrivance may be on the top of the well head—we have a number of different ones we use—is placed back, and cement is mixed and pumped in to the top of the casing, down in on top of the plug, down through the casing. As soon as all of the cement which we desire to place inside of the pipe has been mixed and pumped in on top of the plug the head is removed and another plug is put in on top of it. The head or top or well cap is then replaced and pumping is again started. This pumping is continued until such time as the last plug indicates that all of the cement has gone out of this casing and is in behind the casing. When I say all I mean assumedly, as it is practically all out. Sometimes we put in a spacer so we can leave a few feet inside of the casing. That, generally speaking, is the method which we follow in cementing our wells.

In giving my testimony and in describing what I think might be a proper royalty, I would so with that general description in mind.

(Testimony of William C. McDuffie.)

I spoke of cementing the first 1000 feet of pipe. The next string which is inserted is smaller than that string, and therefore the circulation comes right on the inside between the walls of the casing, right to the surface between the two pipes. The conductor is just the starting. Sometimes we cement it and sometimes we land it, meaning we just set it down, but the mud packs in behind it and circulation will come up inside of it rather than on the outside, and the inside string in a rotary hole has considerable clearance ordinarily.

We give the plugs the weight of the pipe because the plug is made to fit the pipe closely. I mean so much per foot of weight. For instance, a 10-inch casing may be forty or forty-five pounds per foot. We have some very close jobs of figuring that we occasionally use but one plug. Customarily we use two. It makes no difference in the charge. It makes a matter of perhaps five minutes in the actual cementing, of time, when we only put one plug in instead of two. I have been operating out through this field here for many years.

I have had charge of all the drilling of wells by the Shell Company in Southern California. Every well they have drilled in Southern California has been under my supervision.

Q What sort of pressure does the pump put on the cement?

A At the start there is a pressure that is not much more than would be the normal pressure in circulating the mud. That pressure normally would run on the depth of hole I have mentioned around 150 pounds per square inch for normal circulation. As the cement enters on

(Testimony of William C. McDuffie.)

top of the plug, the cement being of a greater specific gravity than the mud in the hole, the pressure goes down, and by the time you have in a couple of hundred cubic feet of cement there will practically be no pump pressure, and very often there will be a suction so that the pump is just racing, picking the cement up and putting it into the casing. Then after the cement has hit the bottom, after the first plug has hit and the cement starts around, there is a gradual building up of pressure, and on many jobs that I have witnessed I have noticed that usually when the first plug hits there is an accumulated pressure of fifty or seventy-five pounds, so that you notice it on the gage, and you have an opportunity then to check up. Then as the cement gets around behind the pipe you begin to have to lift an additional weight because you are getting your greater specific gravity out behind your pipe, and you are having to raise it up with a fluid on the inside of the pipe that is of a less specific gravity, because you have put either mud or water behind your second plug. When the second plug hits, the pump usually builds up a pressure of between 500 and 1000 pounds. Normally the last part of the cement goes in at from 300 to 450 pounds. The minute that the pump has put up the pressure which we consider is the final pressure, we disconnect the pump and leave the pressure on the well as long as it may stand there. Normally the pressure goes off in a matter of a few minutes, that is, dissipates. I don't know where it goes, but it dissipates very quickly. There is a head on and that head is left on. The water is held inside, but the final pressure that the pump puts up after the pump has been disconnected

(Testimony of William C. McDuffie.)

and the valve at the head is closed seems to dissipate very, very quickly. I have never understood what became of it, but it does dissipate very quickly. Often we remove the head within a very short period. That final pressure apparently is the pressure that builds up as the plug hits and is simply the stopping of an incompressible mass, and the water or mud does not compress any that is in there. There is of course a very considerable pressure on top of the plug, a hydrostatic pressure, and there is the entire column of water or mud, which remains on top of the plug, and the plug has a cup on top of it which prevents the fluid itself dissipating down beyond the plug.

Q You have described what you know as the Perkins method as it is actually employed by your company. I will now ask you to give your opinion of what would be a reasonable royalty for the right to employ that process in the cementing of wells for oil companies where you were to receive $250 per well for the operation, over a period of time from the 1st of May, 1921, to the 1st of June, 1923, in the Southern California fields, to wit, Long Beach, Huntington Beach, and Santa Fe Springs, considering the nature of that process, its utility and advantages, and having in mind eliminating the use of the first or bottom plug and employing either a shoe guide or some equivalent obstruction at the bottom to arrest the top plug when it reaches the bottom of the casing, or approximately the bottom of the casing. I am asking you to put yourself in the position of a man who is going to cement wells for oil companies and receive from the oil companies $250 for each cementing job. How much would be a reasonable royalty for him to pay

(Testimony of William C. McDuffie.)

for a license to use this Perkins method, as we have defined it in the question, to the owners of the Perkins patent?

MR. WESTALL: We object to the question as incompetent, irrelevant and immaterial, the subject-matter of the question not being proper subject-matter for expert testimony, the witness not being properly qualified to testify as an expert as to the amount of royalties, and particularly not having stated any facts which would qualify him to estimate or guess at the amount of a royalty.

THE MASTER: He may answer subject to the objection.

MR. WESTALL: Exception. I understand that counsel had admitted, at least inferentially, that there was no established royalty, in his statement that no license had ever been granted.

MR. LYON: Not in this field, Mr. Westall; that is correct, there has been no license granted. Mr. Perkins has done the work himself, or at least his company has.

THE MASTER: I don't think that would be competent evidence, to show what a royalty in another field is.

MR. WESTALL: The point is, we object if there is an admission that there was an established royalty, or some royalty, in some other field.

THE MASTER: Let&s hear what the witness says about this field.

MR. WESTALL: Note an exception.

THE WITNESS: As I understand, assuming that I have been licensed to use the Perkins process and make a

(Testimony of William C. McDuffie.)

charge of $250, you desire to know what I think would be a reasonable amount to reimburse the Perkins Company for the use of that process. I know what is furnished by the Perkins Company in the cementing of a well: a cement man and a truck and the plugs, and that does not include the cement nor the steam nor water nor the mud.

Q Assume you wanted to give the same service that Mr. Perkins gives and that you could get $250 for each cement job from the companies you performed the operation for, what do you think would be a reasonable royalty or share of that to pay to the owners of this Perkins patent for the license to use the Perkins method, as I have defined it in my question?

MR. WESTALL: The same objections are repeated to the question as re-stated or re-vamped.

THE MASTER: The same ruling.

MR. WESTALL: Exception.

A I think a very reasonable royalty would be 25 per cent. of the charge of $250; a quarter.

Q If during this same period of time, from 1921 to 1923, Mr. Perkins had not been giving the service that he gives in these Southern California fields, and without a license the Shell Company could not have employed this Perkins method as I have defined it in my question, what would be your opinion as to whether or not 25 per cent of $250 would have been a fair royalty to have paid for the Shell Company to have obtained a license, and by fair royalty I mean would that have been an unreasonable royalty from the standpoint of the Shell Company, in your opinion?

(Testimony of William C. McDuffie.)

MR. WESTALL: Objected to on the grounds stated to the previous question: as incompetent, irrelevant, and immaterial, and the witness not being properly qualified, the subject-matter not being a proper subject of expert testimony.

THE MASTER: I will receive it subject to the objection.

MR. WESTALL: Exception.

A Inasmuch as at the moment I am not acquainted with a better process, and if I found my company forced into a position where they were unable to acquire this process without a royalty payment, I shouldn't hesitate for a moment to say that I would be quite willing to pay in excess of 25 per cent of $250 for that process. That is, I would furnish all of the equipment myself and labor. If that was the only way that I could get the use of the process I should be willing to pay in excess of that amount rather than use other methods that I know of. To say how much that would be is impossible for me to say, because I would certainly try to trade it down.

THE MASTER: I would like to ask him if he thinks he could make any money on paying a royalty of $62.50 with all this equipment and so on.

THE WITNESS: I haven't any doubt I could make money on that basis; I would be willing to attempt it, if you would arrange for Mr. Perkins to license me on that basis and put me in business in California.

On

CROSS EXAMINATION

by Mr. Westall the witness testified:

The lower plug, in my mind, is particularly a barrier, in that it prevents adulteration of the water and cement

(Testimony of William C. McDuffie.)

in going down the hole. The cement is of a greater specific gravity than the water, and if there were not a plug ahead of the water then the cement would tend as it went in to shoot out in stringers ahead. Therefore it acts as a barrier between the lower water or mud and the upper cement which is above the plug. The last plug acts as a barrier between the cement and the upper fluid, which may be mud or water, because in going down, inasmuch as the cement is of a greater specific gravity than the mud, there is a tendency as it goes down the hole, on account of the irregularities of the size of the pipe and on account of the interstices between the collars, that a swirling motion is set up and the upper part of the cement becomes adulterated with either the mud or the water which is following the cement. If an upper plug is in between the cement and the upper fluid, this cannot happen. It is particularly advantageous that the upper part of the cement does not become contaminated, owing to the fact that this is the cement which is last around the pipe and you depend upon this last cement for your positive bond around your shoe joint; therefore that cement should be the cleanest of all of the cement which goes around the shoe. The second, or upper, plug acts particularly as an indicating barrier in that it indicates at the surface, through the medium of the pump, that the cement has reached bottom. I attach to the word "indicating" the word "barrier" because it is both.

Q Your estimate of a reasonable royalty is based, is it not, upon your conviction that this use of one of the plugs as a barrier is the most valuable feature of this Perkins invention? Is that your idea?

(Testimony of William C. McDuffie.)

A The question, as I understood it, was asked me—

Q Well, this is a new question.

A But you asked me upon what I based my answer to that question, therefore I must repeat the question. I answered the first question on the basis of royalty, of how much I thought was a fair royalty to pay out of a charge of $250. I answered the second question on the basis of what I thought would be our difficulties in case we were unable to use the plug method. I should therefore think I could best answer your question by stating that I think, or by saying that my belief is, that I could afford to pay more on account of the use of the plug. As I have described it to you, it has a two-fold purpose: both as a barrier and as an indicator.

Q But if the plug was not used as a barrier to separate the water from the cement, would you be inclined to pay as much for the use of this Perkins process as you would if you were permitted to use the plug as a barrier?

A I will put it this way: If the plug has no fit in the casing I would see no value of its use.

Q If you were to be licensed to use what you have defined to be the Perkins invention, but it was expressly understood that you could not use this plug to separate water from cement, would you be inclined to pay the royalty that you have mentioned, or would you insist upon the use of the plug as a barrier to separate water from cement?

A I don't think I should insist upon its use as a barrier, but I should insist upon the use of a plug, that is, I should insist upon the privilege of using one or more

(Testimony of William C. McDuffie.)

plugs as I saw fit. I don't think I should specify that they should be allowed to be used as barriers, because I would work on the assumption that unless they were constructed, one or more of them, or that I had the privilege of constructing them so they could be used as barriers, I wouldn't care for them. I would not enter into any agreement which limited me specifically to the use of the plug for any particular purpose. I should insist upon the use of the plug at my discretion, for various purposes and types of jobs, Mr. Westall. There are many different types of cementing jobs. I would insist that I have the privilege of judging whether or not I should use the plug distinctly as a barrier. I would not tie myself down to saying that I would not use the plug unless I used it only as a barrier, because it has other purposes.

Q Suppose the agreement was that you might use it as an indicator, but the agreement was so worded that you could not use it as a barrier to separate any water from any cement. Now the question is, would you enter into that agreement, and would you be willing to pay the royalty that you have suggested with that qualification?

A Well, I might like to use mud instead of water. On my bottom plug I might wish to use it as a barrier, going down the hole, but not as an indicating barrier to the extent of its stopping my pump. I don't know how to answer your question yes or no. The reason I think it is a difficult question to answer is because we have been talking about what my understanding of the Perkins process is and talking about if I were licensed to

(Testimony of William C. McDuffie.)

use the Perkins process, and I really don't understand how I can answer the question.

Q Suppose you were offered a license, such as was suggested by counsel during your direct examination, for the use of this Perkins process, but suppose that that license contained the qualification that you could not use the plug of the Perkins process as a barrier to separate any water from any cement, would you or would you not accept such a license and agree to pay that $62.50 royalty with that qualification?

A Well, I don't understand that I would be licensing the Perkins process then. Then it is not a question of licensing this particular process we are discussing. That was my understanding when I answered the question. I don't see how I could use the plug as an indicator if it wasn't also possible to use it as a barrier.

Q Then you wouldn't accept that kind of an agreement, would you?

A Well, you speak of opposites. I can't accept two opposites in the same agreement. The license which you refer to is not the license which I understand has been put to me. I would not accept that kind of an agreement. In the start you asked me if I would accept the license referred to, and then you changed the type of that license and asked me if I would accept it. Understanding that it is changed from the license agreement, from the license proposition as put up to me, I would answer the question no, because it is changed; it is not as it was put to me; you asked me if I would accept the license if it wasn't a license. That is very obvious, I think. A contract of that kind would not be desirable because you

(Testimony of A. A. Perkins.)

asked me would I accept a license with a lot of qualifications that make it not that license.

Q It doesn't make any difference what you call it; you are quibbling on what it is called.

A Certainly; because the whole thing is fundamental. If you will ask me would I accept a license for an entirely different kind of a cementing process from the process outlined here, then I will answer your question right out. My understanding is that the barriers to separate the water from the cement are a vital part of the Perkins process. I would consider if there were any plugs at all used that fitted casings they would be considered barriers, and if the plugs used did not fit the casing they would not constitute barriers. By barriers I mean plugs that fit the casing and are mediums of separation between some tube or things that are inside of the pipe.

(Balance of cross-examination postponed until later.)

A. A. PERKINS,

recalled for Plaintiff, testified further on

DIRECT EXAMINATION

by Mr. Lyon:

Referring to the operating stations we had in Southern California fields from May, 1921, to June, 1923, I don't know the extent to which the outfits or trucks were absent from those stations during that period of time on cementing operations as compared with the time which they were standing in the stations waiting to be called. Sometimes the outfits are all out and sometimes we have a reserve. We always have a reserve from one station

(Testimony of A. A. Perkins.)

to the other where we can shoot one outfit into another station. We maintain that reserve at Whittier. We would have about seven trucks there, and if there were any need for any further trucks at Santa Fe Springs or Huntington Beach we could shoot them over there. Lots of the work at Torrance was done from the Whittier garage and also from the Long Beach garage. Our purpose in maintaining reserve outfits there over and above what would normally be needed was so that we could always be sure that we would always have an outfit for a person when they wanted it. When they want an outfit they want it the day before, generally. We have never gotten caught without it yet, as we would work night and day to finish that up. Sometimes a flood comes in, 12 or 15 wells right at once, and we have got to have a reserve to take care of them.

We could very easily have cemented the 280 wells that were cemented by the defendants in the Huntington Beach, Long Beach and Santa Fe Springs fields, as shown by their report, from our operating stations as they existed during the same time, without the addition of any further trucks or equipment. It was over a period of 25 months, which would be about 12 wells a month.

Q What expense would you have been put to to have cemented those 280 wells, over and above the expense that you had in your business, independent of obtaining that work?

A Well, there would have been practically no more overhead expense to it, and there would have been the addition of the plugs and probably the wear and tear on the outfits, which would probably amount to about $75

(Testimony of A. A. Perkins.)

or more. The $75 is just the wear and tear on the equipment and the plugs. We wouldn't have had to put on any more help. Our men are paid by the month. We don't give them any additional on account of the number of wells they cement. Their time goes on and they are never docked, year in and year out. If they are sick they are never docked, and if they are hurt they are never docked; they get their wages just the same. We have had men who have been laid off three and four months at a time and they always got their check at the end of the month just the same. When the work is to be done they do it, and when the work isn't there to do they don't have anything to do, so one thing balances up with another. They all seem to like that plan.

I don't know just what the plugs cost. We estimate the plugs about $50. That is what we sell them for. I didn't say $75 outside of the plugs; the wear and tear would be about $25 a well, for the extra gasoline and so forth. I think the total expense we would be to in cementing those additional wells would be $75 per well.

We have sold plugs outside, where we didn't do the work, for $100, that is, $50 royalty and $50 for the plugs. We have sold them to the Standard Oil Company and the Associated Oil Company and they have paid us that rate for the plugs and the $50 royalty. Those were not sold to be used in this territory, but outside where we have no outfits. We have never given any consideration to licensing anybody in the territory in which we have our equipment, because we have the outfits there, and if we would license them our outfits would be standing idle. We have a list there of those to whom we sold,

(Testimony of A. A. Perkins.)

that Mr. Whitney took off of our books at my orders, and you can read the wells and he will verify it. That is taken from our books.

(List marked Plaintiff's Exhibit 64. for Identification.)

We have had requests for licenses in this territory or in the territory in which we operated, and in all instances we refused the request. The Pacific Oil wanted a license and we told them if we licensed one we would have to license another, and they said, "Well, we see your point all right, but if you will agree to take care of our work we will turn all of our work over to you," so we immediately bought enough trucks to take care of the work. That was about eight or nine years ago.

We are receiving a royalty for the use of the method of the patent in suit for Oklahoma and the rest of the Mid-Continent oil fields from Mr. E. P. Halliburton, of Duncan, Oklahoma. He is cementing wells by that method in Oklahoma, Texas, Kentucky, Arkansas, and Louisiana. There are five States all together.

Q What did Mr. Halliburton pay you for the license to operate in that territory under the patent in suit, Mr. Perkins? I mean the entire consideration that he gives you or has given you for the license.

MR. WESTALL: We object to that as calling for not the best evidence, any written agreement that may have been made between these parties being the best evidence, it being incompetent, irrelevant, and immaterial.

THE WITNESS: I know myself how much we have received.

MR. WESTALL: The further objection is made that if that agreement is produced it will show that there were

(Testimony of A. A. Perkins.)

other considerations, and that it was a mere settlement agreement between the parties of other litigation, and that the amount that was paid was no measure at all by which to determine any reasonable royalty.

MR. L. S. LYON: In view of Mr. Westall's objection, I will make this statement: that the original agreement is in evidence in the United States District Court in the Western District of Oklahoma, in the case numbered 547, Erle P. Halliburton vs. Dan Burris. I have a transcript here of that case, in which the transcript of that agreement is copied in full, and if counsel cares to examine the agreement I will be glad to have it examined by him, or copied into the record.

MR. WESTALL: The objection is that it is a mere copy, or purported copy, of the agreement, and the best evidence is the agreement itself, and we insist if the agreement is of any materiality at all that it should be produced.

THE MASTER: Overruled.

MR. WESTALL: Exception.

A He paid us $25 a well royalty and gave us the exclusive right of the patent on his measuring line that he used to determine where the plugs are, for all States this side of the Mississippi River.

MR. WESTALL: We move that the answer be stricken out as clearly not the best evidence, and merely a conclusion of the witness as to what the contract contains.

THE MASTER: Motion granted.

Q BY MR. LYON: Mr. Perkins, during the time between May 1, 1921, and June 1, 1923, would you at

(Testimony of A. A. Perkins.)

any time have been willing to have granted the defendant Wigle or the defendant Cottengim, or either of them, a license to employ a process covered by the patent here in suit in Southern California, at a royalty of less than $50 per well?

MR. WESTALL: We object to that as incompetent, irrelevant, and immaterial, and it is no basis at all for the determination of what would be a reasonable royalty even if that question were pertinent to this accounting proceeding.

THE MASTER: Objection sustained. You may answer for the record.

A No, sir, I would not.

Q BY MR. LYON: Mr. Perkins, in your opinion would less than $50 have been a reasonable royalty for the right to employ the process covered by the patent here in suit in the Southern California oil fields between May 1, 1921, and June 1, 1923?

MR. WESTALL: Objected to as calling for a conclusion of the witness, as apparently calling for expert opinion as to what would constitute a reasonable royalty, no foundation having been laid for the testimony of this witness as an expert, and the subject-matter of what would constitute a reasonable royalty being a matter concerning which, in the absence of any such actual agreement for royalty, is not a proper subject for expert testimony.

THE MASTER: He may answer subject to the objection. I am inclined to think this is not a proper question, though, for opinion evidence.

MR. WESTALL: Note an exception.

A I don't think so.

(Testimony of A. A. Perkins.)

On

CROSS EXAMINATION

by Mr. Westall, the witness testified:

Q In this Plaintiff's Exhibit 64 for Identification I notice a number of names of places here underneath "Port Orient, Washington," and different places in Washington, and Lewiston, Montana, and Alaska.

A Yes. They paid us this royalty for the packers and we shipped them and they did the work themselves.

MR. WESTALL: With that explanation of the witness, we move to strike out this so-called statement of royalty charges as incompetent, irrelevant, and immaterial. The Master I believe has already ruled that the amount paid as royalty in some other locality is no proper basis for determining the amount of royalty here.

THE MASTER: I will let it stand as bearing on reasonable royalty, and deny the motion.

MR. WESTALL: Exception.

THE WITNESS: We have no regular contract with the Standard Oil Company for the purchase of these plugs. The $100 for the plug is $50 for the plug and $50 for the royalty—$100 f. o. b. Los Angeles. In none of these cases did we use a single plug and charge just $50 for it. We used the two plugs; they always used the two plugs. $100 for the set. You couldn't use a bottom plug for a top, nor the reverse. Here in Southern California I think that we have sold a top plug for an indicator to find out about a split casing; but that I remember of we never have sold any of these plugs for use in Southern California (for cementing). We have no written agreement with the Standard Oil Company

(Testimony of A. A. Perkins.)

for the purchase of these plugs for use outside of Southern California. When they order plugs for use in these different places here, the order comes from the purchasing agent here in this locality, and we bill them direct to the Standard Oil Company at the place indicated here.

Q As a matter of fact you don't tell them anything about royalty charges, do you? You just simply charge them $100 for both plugs, don't you?

A We explain that is what that is for. We have no explanation in writing. We did not send them a letter explaining that to them. They know it. I don't know just how that is billed. I don't keep the bills, but that is what it is: it is $50 for the plugs and $50 for the royalty. We have the original books in which these charges are kept. Mr. Whitney took these different entries here off of the original books. We have never sold any plugs, including the right to use them, for less than $100 a set to any place. They don't use them in the eastern fields. They don't cement there. We have not sold them in any field in the United States outside of the Southern District of California for a different price than $100 a set. When we sell them the plugs we give them the right to use them in doing this cementing by our process; that includes the royalty and the plugs, which is $100. I guess you will find some in Mexico in that list. I have a patent in Mexico and one in India.

We do not have a patent on any of these plugs. We have a patent on the system with the plugs, but not any other patent than the patent here in suit.

I don't remember whether the Richmond Petroleum Company of the Philippine Islands order their plug in

(Testimony of A. A. Perkins.)

San Francisco or where. That was the Standard Oil Company in the Philippines. The price is understood. They just order the plugs and send us a check when they get them. None of these persons that I know of wrote a letter to us inquiring what we charge for plugs, but I don't keep the books. Mr. Whitney probably would know as to the correspondence. Either Mr. Whitney or my daughter, Edna C. Perkins, who is secretary and treasurer, carries on any of the correspondence that might result in ordering the plugs, or answers the inquries as to the price of our plugs. Mr. Whitney's first name is Lewis. I don't know anything about any of the correspondence that might have been had, or whether there was any such correspondence. They just send an order in and we send them the plugs, as far as I know. There might have been letters in which they asked for prices; I don't know whether there were any such letters.

At the time of this settlement with Halliburton, in which I testified a certain amount of royalty was paid, there were suits pending against him, that is, we had a suit pending against him. I never heard of a suit by him against us; he was not threatening us with suit. He has a patent on a measuring line, and he uses it now. We never used that. We did not take a license under his patent. He turned that patent over to us for these States in consideration of the royalty that he pays us. He has a patent right on it. He turned those entire rights over to us.

(Adjournment to October 24, 1923, at 10 a. m.)

(Testimony of A. A. Perkins.)

October 24, 1923. 10 A. M.

(The reserved ruling of the Master on the question of an expert giving an opinion as to a reasonable royalty for the use of an invention was further argued.)

THE MASTER: The rulings reserved are now made. The objections are overruled.

MR. WESTALL: We note an exception.

(Further time given to Mr. Westall to find authorities on the question, the Master again reserving final ruling.)

A. A. PERKINS

testified further on

CROSS EXAMINATION:

I am probably not familiar, from my own actual knowledge, with the conditions under which each of these orders mentioned in Plaintiff's Exhibit 64 for Identification was taken by our company. They were ordered through the office and I don't keep the books.

Q You had nothing to do with talking over with the representative of the Standard Oil Company or the Richmond Petroleum Company or the California Company at Lewiston, Montana, or the Associated Oil Company for Alaska, or the Anglo-Mexican Petroleum Company, Ltd.—

A Yes, sir, I did with the Anglo-Mexican Petroleum Company. I had a conversation regarding the price of plugs with the purchasing agent in New York City; I could not give you the date. We have orders here showing the date.

(Testimony of A. A. Perkins.)

Q Here, for instance, the dates are given for the Anglo-Mexican Petroleum Company order as January 22, 1923, February 24, 1923, and June 13, 1923.

A It was just shortly before the first order was filled, that I had my first conversation with the representative in which I fixed the price with this certain company. I think on the order is the price. That is the only place that I know of that the price of these plugs was noted. I couldn't tell you the name of the purchasing agent in New York City; it has slipped my memory. We did not have any written agreement or contract with him at all in regard to the price. I know personally where we sent these plugs in fulfillment of that order. I can show you where we sent them. This bill of lading dated December 28. 1922, is the first order.

The Anglo-Mexican Petroleum Company, Ltd., paid $50 royalty in each of these orders referred to in Plaintiff's Exhibit 64 for Identification; that was included in the price of $100 per set. Referring to this order S. F. 293, which reads, "One set packers, $100 per set," there are three sets of them listed in the order at $100 a set. Down here it says "Plus $50 royalty for the use of the reagent." That has nothing to do with this at all; that is another proposition that we furnished them outside of this. It was for hastening the setting of the cement. I haven't a patent on that, but I have the right on it.

Q You find nothing in any of these orders or in the bill of lading referring to any royalty for the use of those packers?

A That was explained to them personally, that $50 was to be for $50 on this and $50 for the packers. Those

(Testimony of A. A. Perkins.)

things were to be used in Mexico. We have a Mexican patent.

I don't remember just who did have the talk with any of the other companies mentioned in this Plaintiffs' Exhibit 64 for Identification regarding the price of these plugs. It was understood that they were to pay $50 for the price of the plugs and $50 royalty for using them. We have no contract with any of the companies, only just as we talked it over. We charged $100 for the plugs, including the royalty. That is what our terms are to everybody. I don't know whether it was divided into $50 for the price of the plugs and $50 for royalty in the books; I don't keep the books. This Plaintiff's Exhibit 64 for Identification is a copy from the books; what is on there is a copy from the books. I don't know whether the price of plugs was segregated in the books from the price of royalty; I don't keep the books.

In all these cases we have sold two plugs as a set. Whether we used one plug or two plugs was just according to how the job was. I couldn't tell you how often we used just one plug. I didn't do the work. In these cases in which we authorized the use of our plugs it was always a set of two we sold; but we don't know whether they used one or two. We would send them a set. The price was $100, including $50 royalty. Surely we would sell them one plug for the use of our process, alone. I don't remember whether any one ever ordered just one plug. I couldn't tell you because I don't keep the books; I don't keep track of that. I don't think I would have known it if there had been any considerable number of those used alone, one plug sold for use in different places.

(Testimony of W. C. McDuffie.)

I don't know to what extent we use one plug in our cementing operations at the present time. I am not in the field and I don't do the cementing. I have not been in the field to do the work within the last six years.

Q Now, before that time to what extent did you use just one plug?

MR. L. S. LYON: That is objected to as irrelevant and immaterial, and as having no bearing on any issue in the case, that I can see.

THE MASTER: The objection is sustained.

MR. WESTALL: Exception.

On

REDIRECT EXAMINATION

the witness testified:

In this charge of $100 that we made for the furnishing of the plugs and the right to use the process in territories outside of where we were operating, the $50 plug charge included a profit on the plugs. And they could make the plugs if they wanted to. They are very easy to make. But when they buy them of us they know they are right down to the size. If that plug is a quarter of an inch too large it wouldn't do. But the plugs are simple enough to construct and copy.

W. C. McDUFFIE

recalled for

CROSS EXAMINATION

testified:

I have not talked with Mr. Lyon or the plaintiff or anybody else since the last adjournment concerning my future testimony on cross-examination in this case.

(Testimony of W. C. McDuffie.)

My experience in fixing royalties upon patents has been in the establishment of a royalty on the use of a quick-hardening chemical in cementing oil wells. The royalty was established at the price that I placed upon it. I did that sometime last year; I don't remember just when or what the date was. The Shell Company uses the process but doesn't pay that royalty. They use and recognize the patent, but it was developed through my personal efforts on the Shell Company's property. I mean this hardening process. It was developed in part through my efforts. I was not one of the joint applicants for that patent.

Q What part did you have in developing that process under the patent?

MR. L. S. LYON: That is objected to as irrelevant and immaterial.

THE MASTER: The objection is sustained.

MR. WESTALL: Exception.

THE WITNESS: This invention was the result of a search extending over seven years, in which I have been very personally interested. I have written all over the world endeavoring to find some method of hardening cement in oil wells, knowing that the expense in doing that by the normal process was considerable and that I could save an untold amount of money in the operations if I could develop it. I didn't have sufficient technical education myself to make the necessary experiments, and the necessary experiments were made by another man. I think that answers the question quite clearly. The inception of the idea was entirely mine. The patent was granted to Frederick W. Huber. I don't know the date

(Testimony of W. C. McDuffie.)

of that patent. To my knowledge there was but one patent granted to Huber on the process or method of hardening cement in cementing wells.

Q May I ask what interest you had in this patent at the time you fixed this royalty?

MR. L. S. LYON: That is objected to as immaterial. The interest of the witness is conceded in that particular invention.

THE MASTER: In view of the concession the objection is sustained.

MR. WESTALL: Exception.

THE WITNESS: At the time of these experiments which resulted in this invention I was general superintendent of the Shell Company. I personally initiated those experiments.

Q And was your first conception of this idea you have spoken of found to be correct upon experiment?

MR. LYON: That is objected to as immaterial and attempting to obtain discovery in regard to an invention that is not here in issue in any way.

THE MASTER: The objection is sustained.

MR. WESTALL: Exception.

Q At the time you fixed the amount of this royalty that the Shell Company was to pay didn't the Shell Company know of your interest in this patent?

MR. LYON: That is objected to as immaterial and as a mis-statement of the testimony of the witness, assuming a fact not testified to by the witness—that the Shell Company was to pay the royalty.

THE MASTER: The objection is sustained.

MR. WESTALL: Exception.

(Testimony of W. C. McDuffie.)

THE WITNESS: The Shell Company does pay royalty. I stated that the Shell Company doesn't pay the royalty which I established generally for the business. The Shell Company pays that royalty upon my recommendation. The royalty was established through conference with officers of the company. It was a joint establishment. The officers and I agreeing together established this royalty. I did have experience in fixing that royalty because the royalty was established for the company at my suggestion. My suggestion as to the amount of royalty was not accepted without any change. My suggestion was that in view of the fact that a number of experiments had been carried on at the company's expense I was in position to see to it that the company paid nothing for it; but the company considered it so valuable that they agreed to pay a consideration.

Q As a matter of fact, you knew that the Shell Company had a shop right to use that invention without the payment of any royalty, did you not?

MR. LYON: That is objected to as immaterial.

THE MASTER: The objection is sustained.

MR. WESTALL: Exception.

THE WITNESS: It was at my suggestion that the patent was licensed at an established royalty to the industry.

Q Do you know who owns that patent at the present time?

MR. L. S. LYON: That is objected to as immaterial, since the royalty was established.

THE MASTER: The objection is sustained.

MR. WESTALL: Exception.

(Testimony of W. C. McDuffie.)

THE WITNESS: At the time of my fixing the royalty for the industry or suggesting the amount to be fixed, I owned a substantial financial interest in that patent.

I have had other experience in fixing royalties on other patents connected with the oil industry. I have been connected with the Shell Company since approximately 1907 —No, not with the Shell Company since 1907, but with the industry since 1907. I had nothing whatsoever to do with the fixing of the royalty or purchase price the Shell Company agreed to pay for patent 1,070,361 granted to the Trumble Refining Company on August 12, 1913, for oil topping process. I don't know that patent by number. On this cement-hardening process patent, the matter was in such shape that there was no necessity for the Shell Company paying royalty, but the industry paid the royalties as I fixed them.

Q What other patents have you had experience in fixing royalties on?

A We have coming to us constantly inventors. These inventors may or may not have tools or appliances for the industry that are of value. Quite often we are requested to give an idea of what we think that patent is worth to the industry—how much we would be willing to pay for a license to use such patent, or what we think would be a reasonable amount for the inventor to charge for the use of the patent. In addition to that the Shell Company has had in its employ men who have invented things, and it has not been the policy of the company to maintain for their own exclusive use things invented by employees unless they were of a distinctly secret nature, therefore it has been the policy of the field department to rent pat-

(Testimony of W. C. McDuffie.)

ented tools and establish a royalty on the rental. Now, at the present moment in my mind is a matter of casing spears. For a number of years we supplied from our tool shed at Coalinga casing spears, casing cutters, and other types of fishing tools for the use of the entire industry in the Coalinga field, and we charged a rental for those tools, basing our rental upon what we thought the value of the tool was to the industry. In addition to that we have to sometimes endeavor to establish for the inventor on the property some price which we think would be reasonable for him to charge in licensing. So generally it gives us an opportunity to investigate and get an idea of what the value of various inventions is to the industry. I do not find any general rule. It is confined entirely to the specific article under consideration. If I may cite it, I have a distinct case in mind which has come to my attention within the last two weeks. The man has invented what apparently is a very splendid set of rotary trip jars. Now rotary pipe is practically inflexible; you may get in 4000 feet of 4-inch pipe a couple of feet stretch, but it is only stretched up like this (Illustrating)—you can't give a blow. If you take the stretch up and let it back you kink your pipe. Very frequently we have left in the hole a "fish," meaning a piece of the tool with which we drill. We have jars made by other people that are not satisfactory in that they do not allow for the proper circulation of fluid through the jars; that is, the jar is all right to take hold of the fish and you can use it pretty well, but you are limited through your up action and you are limited because you cannot get the proper circulation. Now this man put out a jar that will allow you not only to circulate

(Testimony of W. C. McDuffie.)

through but take that strain and twist your pipe and then get a very sudden, severe blow on the fish. That jar has saved us a great deal of money in the last six months. We have been paying a flat rental price for that of $150 for every job. As far as we are concfrned it is worth it, because it has saved us a lot of money; but other than that we feel that in all those things we should get them to the best advantage we can, therefore I am endeavoring to get a rental price per month out of the man for the use of the jar. There is something that we have to go over our schedules and see how many jobs we have had, estimate how many jobs we are likely to have, and estimate how much we are paying and how much better we can do by the use of this invention. That is a specific instance that is fresh in my mind, because it has come to my attention within the last few weeks, to decide what I would offer him for its monthly use.

Q Do you figure your savings during a period on any percentage basis?

A This is the idea: that we have had so many jobs where we have been unable to get these fish out and have had to sidetrack them, and, unfortunately, sometimes skidding the rig, that to have a fish stuck that we cannot pull, taking hold of it normally, and then maybe loss of time coming back and taking hold of it with the jars and getting it out, that possibly means a saving of the hole to us. I can say that I have gone back in and taken hold of a fish four or five times and have been unable to pull it. We go in and take hold with the jars and jar it for six or eight hours and get it out. So it is difficult to calculate the intrinsic, absolute value. But now that we know about

(Testimony of W. C. McDuffie.)

the jars we would pay considerable money rather than to go without them. And it is not the policy of the company, where a patent normally seems to hold, as far as our investigations show, to try to go in and make the jars and use them ourselves.

In fixing royalties we have to deal with the royalty established by the man first. Will we or will we not use that patent as he has established the royalty? Then if we find we pay him more money than we think we may have to we try to get him around to what we think is a more reasonable basis for our operations. If our operations are large he can better afford, perhaps, to reduce his rate to us, and it is a question of whether or not we can convince the man of that. Many inventions are sold with just a manufacturing royalty placed on them. We have, for instance, foremen who invent a tool, and rather than charge for the use of the tool they will sell the tool for a certain price, adding a certain percentage upon the cost of manufacture for their royalty. That percentage is quite arbitrary, again depending upon the possible value of the tool to the industry. May I cite an instance of something that we are looking for now that would prove of great value and put in your mind how difficult it is to put up the intrinsic value of a thing—of a jar, for instance? We are now searching and have searched for two years for a certain type of mud-treating machine. That is again because of fish in the hole. Now if someone would come around to me tomorrow with a type of machine that I want I would pay a considerable amount of money to get it—how much would depend upon the efficiency of that machine and to what extent it actually

(Testimony of W. C. McDuffie.)

helped the work when I got into operation. There is no hard and set rule in fixing a reasonable royalty; we have absolutely no inflexible rule. The experience of fixing a royalty in one case would aid in fixing a royalty in another case, because it gives the relative values: it gives one an opportunity of judging the relative value of an invention, and therefore how much more or less it is worth to pay for it. I don't remember in how many instances I have initially placed the amount of royalty upon a device.

Q I understood in your prior testimony that you referred principally to cases where the inventor had initially placed a royalty, and the question was whether or not the Shell Company would accept that royalty and pay it.

A Only in part. I have stated that we had numbers of things invented on the property that it was necessary to give consideration to. The cases in which I in the first instance suggested or fixed the amount of royalty to be paid upon any invention relating to the oil industry goes over too long a period of years, and I would not trust my memory to make such a statement. I would say it was certainly under fifty. I would say that probably it was between twenty-five and fifty. I would say that would cover too long a period.

When I started in the oil industry in 1907 I commenced as a roustabout. I worked at that approximately a year, I think. I won't say I was employed only as a roustabout during the entire year, because I did other incidental work. A roustabout is a general helper around an oil property, who does all kinds of work; he does pick and shovel work or stable work or well work or setting boilers

(Testimony of W. C. McDuffie.)

—it all depends on what his foreman may set him at. He is a roustabout in the general sense of the term and is supposed to do anything that may come up. He has absolutely nothing whatever to do with fixing the amount of royalties on patents unless he happens to invent it himself.

In 1908 I was still working in the fields, and I cannot say exactly what positions I was holding during those times. I had worked from a roustabout to a driller before I became in any sense a foreman. There was a period of about—between 1907 and 1910, perhaps—in 1909 and 1910, that I went through various phases of the work. I wouldn't try to tell you just exactly when and how. I did not fix any royalties on any patents at that time, up to 1910. In the early days in the Midway, between 1910 and 1914, those matters of royalty were under consideration. Tools came along during that period of time. I cannot say definitely whether I fixed any royalties up to 1914. I know that there were numbers of inventions on the property, and I know there were considerations, but just exactly what action I may have had personally in it I cannot say at this time definitely. I know there were such matters that would be before us for consideration. At the time I went with the Shell Company the fixing of royalty happened to be a consideration at that moment, on the rental of tools. The Shell Company was renting these tools to the industry; they maintained a tool shed which was not for their own particular use, but they rented tools to outsiders. I was superintendent of the property and therefore it became a duty of mine to look after the tool house and see to the charges. When a tool

(Testimony of W. C. McDuffie.)

is more valuable it is charged more for; that is, if it is more valuable to the industry, not necessarily its intrinsic value. The rental on tools is a royalty in a sense. In 1914 some of these tools were patented by men who had worked for the Shell Company.

Q Now beginning with 1914 and up to the present time, in 1923, you say you think you may possibly have figured royalties on fifteen different inventions.

A I didn't say that I possibly figured or definitely set any royalties on any such number. I said I thought that probably that number had been under consideration and therefore the prices on them were considered. Whether or not I personally set them I do not know, because they may have been set by the superintendent and referred to me, and I might have agreed to it. I cannot remember. I cannot remember the number that I definitely fixed the royalty on myself.

In fixing this royalty upon any of those, we consider the uniqueness of the tool and what we considered its value to be to us. That is all, except that the question of its patent is always considered. In each case I did not have the patent and read it through, but I did in some cases. It is difficult to answer at this distance why I read the patent through. The probabilities are that when the patent came up there was some reason to believe that possibly it was not a valid patent or did not have particular bearing or that there was something else as good that we could use. I read it through for the purpose of determining whether it was a valid patent and for the description of it, to ascertain whether or not it had a bearing on what we thought was the patent. In all those cases after read-

(Testimony of W. C. McDuffie.)

ing the patent through, where I suggested any substantial royalty, I did not satisfy myself from that reading that it was a valid patent; I don't think I would be competent, necessarily to judge. If there was any particular question of that kind it possibly might have been referred to our lawyers. I remember a question not very long ago about a wire line socket—a swivel socket. I also remember a a question of a circulating head or packing head. Those two points I have in mind at the moment. In fixing the amount of royalties I did not always take into consideration in every case a special report as to the validity and scope of the patent by some patent lawyer. I have cited two cases in which I did do so. I couldn't tell you, really, how many instances I did that.

I never had occasion to figure on or recommend or fix the amount of royalty of the Perkins and Double patent in suit prior to my being called as a witness on this accounting. To my knowledge the Shell Company has used this process of the Perkins patent in suit; ever since I have been with the Shell Company it has been used by them, and I understand was used prior to the time of my employment by the Shell Company in 1914. During all that time the plaintiff in this case has not done every job in this locality. We have dump-bailer jobs occasionally. As far as my knowledge goes he has done every job in which this Perkins process was used.

In fixing the amount of royalty in this case, I am conversant with the prior state of the art of oil well cementing as it existed prior to October 27, 1909. My personal information does not extend back much before the date of this application for patent, October 27, 1909, in so far

(Testimony of W. C. McDuffie.)

as it might be considered relative to my presence at a particular job; not before 1907. In 1907 and 1908, and prior to October 28, 1909, during my duties I assisted at the cementing of wells. I can't say how many wells I actually observed or assisted in cementing. I think a reasonable figure would be twenty. We used the dump bailer and flushing in cementing those wells. Prior to October 27, 1909, I don't think I ever observed the use of the tubing method. In flushing we dumped the cement in the bottom of the hole with the bailer and then we would pull the pipe up and either put water into it as it was pulled up or else screw a plug in the top of it and lower the pipe and that would flush the cement outside of the pipe. I have seen wells successfully cemented by this flushing method. We still do it occasionally. No plug was used in the casing itself in that method of cementing. I couldn't say how many operations of cementing by that flushing process I have observed altogether; that goes over too many years. I would say between 50 and 100. Not all flushing; dump bailer or flushing; that is, not necessarily the exact combination, but I should say between 50 and 100 jobs either of dump bailer or flushing, or the combination. If we just use the straight dump bailer we just raise the casing up and set it back down into the cement, and assumably there is left some of the cement inside and some of the cement outside of the casing. If we don't put water in to flush it as we pull up, then we may screw a plug into the top, and then assuming that the hole is practically full of fluid there is comparatively a small area of air to compress, and there should be pressure exerted against the cement to force it out. That method

(Testimony of W. C. McDuffie.)

to my knowledge was employed successfully prior to October 27, 1909; I can't say how many times prior to that. It is still used occasionally at the present time, where one wants to put in a very small amount of cement, or in a comparatively unimportant job.

Q Isn't it a fact that that method can be used successfully in cementing a large number of wells?

A Well, if the job is successful in a given case and the same conditions exist in similar cases, or in other cases, I would see no reason why it shouldn't be successful. It would depend entirely upon the character of the drilling. The cases where I have had experience have been usually in holes in which there is no mud and in which there is water, and where the casing was of a sufficiently short length that it wasn't necessary to put a large quantity of cement behind it, and in cases where the formation in which the casing was set was well known and where the bond was well known, that is, where we knew that the formation was sufficient for a small quantity of cement to give a very excellent bond, and where the water head is low and there is no particular static pressure on the cement job in case you bail down the inside of the pipe. Before we do those jobs we go into the particular conditions governing the case always and give them special consideration. I do not recall any of those jobs that have been done recently. Most of that work has been done in our Coalinga field. I don't recall any at the moment that I have done down here within the last few years. The particular objection to that method is if you have got mud in the hole you can't get a dump bailer that will go down in the bottom and dump properly. With the quan-

(Testimony of W. C. McDuffie.)

tity of cement we feel it is necessary to use it would be utterly impossible to put a tight head on there and establish the circulation just as if we were going to use the Perkins process as I have described it, and then put the cement in and use that method. The strings of casing that are cemented require in excess of normally 100 sacks of cement and most of the strings of casing are such a length that it would be impossible to get into the bottom of the hole with a dump bailer, assuming that no mud was in the hole and that the hole was perfectly clean, more than 12 or 15 sacks of cement, because say the pipe is a 10-inch pipe and is at 3000 feet, you can't very well run a bailer over 6 inches in diameter and the bailer is limited in length to the length of the derrick. Let us say you have a 100-foot bailer and it is of 6-inch pipe; that will hardly hold over 12 or 14 sacks of cement, and by the time you get the bailer down to bottom and back out again you have lost fully 20 minutes. If you should fill that bailer again and go back down you would disturb that cement. You could pump cement in and continue to pump it until it came to the surface on the outside, if you wanted to, unless the pipe clogged up or the walls caved or the pump wouldn't handle it. I have never seen it done by taking the tight head and pumping the quantity of cement necessary to cement the well down through the casing and up outside of the casing, and thus cement the well without the interposition of any plugs whatever. You could pump the cement down, but I don't know that you could pump it into position outside of the casing, because the position depends upon very accurate measurement, and I don't know how you could measure it.

(Testimony of W. C. McDuffie.)

Q Do you mean to say you couldn't measure your amount of cement and dispense with the plug and pump that cement into the casing and down the casing and up around the space outside of the casing?

A I have never seen that done. It is possible to pump the cement down the casing and out clear to the surface, if necessary. The cement would not by any manner of means come out at the surface in as good a condition as when it went in. I am sure of that, and have observed it done.

Q I thought you stated a little while ago that you never observed the method that I had in mind.

A I have not, because it was a mistake; there was a hole in the pipe and the cement came to the surface. I don't see how it is possible for cement to be pumped down a well and up outside, or that the cement can be circulated down through the water and come through the water and come out at the surface and be in good condition, without the interposition of any plug at all. There can't help but be a contamination of two elements there of different specific gravities in traveling along a muddy wall. In the first place, you can't pump the cement down through the water; that is a physical impossibility. The water has to move along with it or else go ahead of it, unless you put a pipe line there to pump it through. I don't see how without contamination you can displace the water that is ahead of the cement and that water will flow up outside of the casing and you can pump that cement on top of the water and force the water down and up outside of the casing without any plug at all. I know that cement can be circulated around if the pumps keep going, but I have never seen the cement come out in the same condition.

(Testimony of W. C. McDuffie.)

Q Isn't it a fact that that cement is in such good condition when it comes out that it can be used for cementing a floor or a sidewalk or anything of that kind?

MR. LYON: That is objected to as irrelevant and immaterial.

THE MASTER: Overruled.

MR. LYON: Exception.

A It would depend upon the character of cement you thought you needed. If you are satisfied with a cement that has half of its strength or a quarter of its strength or some small portion of its strength, then I suppose it might make some kind of a foundation, or some kind of a sidewalk. I think there are a lot of them built around here that way. I have never had any experience in seeing that used, that is, that cement used through casing, relying upon just ordinary measurement. I have observed the condition of cement after it has been circulated down through the casing.

I have seen this bulletin entitled "Methods of Shutting Off Water in Oil and Gas Wells," by F. B. Tough, being Bulletin 163, which has been offered in evidence in this case. I have not read it in detail, but I have read various portions of it.

Q I call your attention to page 39 of the Bulletin referred to, where the author, describing the Wigle method, or the method under the Wigle patent, states: "It must be borne in mind that no barrier, not even a cement sack, is used between the cement and the water in this process. A striking instance of pumping cement back to the surface between the tubing and the casing occurred at one of the Pacific Midway Oil Company's wells in the

(Testimony of W. C. McDuffie.)

Sunset Oil field, where liquid cement was pumped into a 10-inch hole about 1600 feet deep, through tubing. It was desirable in this particular well to pump in all the cement that the hole would take, so 18 tons (360 sacks) was mixed and pumped in. Of this amount two or three tons was washed back to the surface. When the cement came to the surface it was in such usable condition that a tank was placed there to catch it. The tank full of liquid cement was hauled to a garage where the cement was mixed with sand and used for laying a concrete floor in the building. This condition of the cement after being returned to the surface is the rule, not the exception."

A But you are talking about something entirely different. You are talking about pumping down through tubing and up inside of the casing, and you have been talking to me previously about pumping down through the casing and up the outside of the casing, and that is different.

Q When the cement is pumped in through tubing isn't it pumped in right on water?

A No. You are talking about an area of possibly two inches or three inches of diameter against a possible diameter of 4, 5, 6, 7, 8, 9, 10, 12 or 15, and that is vastly different.

Q When the cement is pumped down and it reaches the bottom of the tubing it is then, is it not, released into the casing and the casing is full of water, and thereafter the cement comes in direct contact with the full area inside of the casing near the bottom of the well, with all the pressure of the water above and on the outside of the casing exerted against it, isn't it?

(Testimony of W. C. McDuffie.)

MR. L. S. LYON: We object to the questions along this line, your Honor. The examination of counsel doesn't even attempt to claim that the cement that could be used to mix with sand to form a concrete for a garage floor would be satisfactory cement to stand by itself as the cement forming the wall behind the casing in an oil well. It is for an entirely different purpose, and it is used in an entirely different condition. The cement used on a garage floor is admittedly contaminated with sand which would render it absolutely impossible for use in oil well cementing.

THE MASTER: I will let him answer the question.

THE WITNESS: You have been questioning me about a condition in a hole that is at utter variance with this condition, and therefore the answer in this case has no particular bearing on the previous questions, because you were talking about cement that was pumped down through a casing and brought up on the outside in a normal hole, and now you are talking about a specific hole that has got water in it and has got tubing in it and has got a casing in it, and before I could answer that I must know the size of the tubing and the size of the casing and whether or not the hole is full of water. (Question read.) I cannot answer that question without first understanding intelligently the details of the jobs. You say it is released at the bottom, but I don't know whether it is unless you tell me whether the well is open at the top or not.

Q I will refer you to the Wigle patent which has been introduced in evidence here, No. 1,057,789. I am referring to the method illustrated in the drawings in this patent, the tubing method. With that explanation I will

(Testimony of W. C. McDuffie.)

ask you to answer the question whether or not, if the cement is pumped down through the tubing without any barriers at all, after it reaches the bottom of the tubing doesn't it then come in contact with the entire area of water in the casing?

A That is a different question, Mr. Westall. I can answer that. On the assumption that the valve at the top of the casing is closed, which is shown in this drawing as No. 6, the cement will then travel to the bottom of the hole, again assuming that there is circulation outside of the pipe, and if the pumping is continued should go up the outside of the pipe and does not come into contact with all of the water, because the water will either mix with or precede it. The larger area of the casing and the specific gravity of the cement, on account of its additional specific gravity, will mix more in the larger casing than it will in the smaller.

I have never observed a job in which the cement was pumped down through the casing without the interposition of a barrier to separate the water from the cement. I have never observed the use of the defendant's process where one plug is used.

Q Then you don't know whether or not if one of the plugs of the Perkins-Double patent were omitted, say the bottom plug was omitted, and the cement is pumped in directly on top of the water, the cement would become mixed with the water that was in the casing or not, do you?

A Well, I do know that it would be quite physically impossible, that some of it would not become mixed. To what extent by the time it reached the bottom of the cas-

(Testimony of W. C. McDuffie.)

ing I can't answer. There should be less mixing of the water above with the cement than the water below the cement if both plugs were omitted.

Q That is to say, assuming that we take this Perkins and Double apparatus and omit the first barrier and you have first established water circulation, and understand the well is full of fluid, mud or fluid, and you pump the cement necessary to cement the well on top of the water, the top plug under those conditions would not act in any way to prevent the cement that was pumped in on top of the water from mixing with the water, would it?

A I should think that would very largely depend upon the amount of cement. If you had pumped in a matter of a few cubic feet of cement—I don't believe I quite understand what Mr. Westall means.

THE MASTER: He says the casing is full of water and you pump cement in on top of that and put a plug in on top. Now, that plug does not prevent the lower water from mixing with the cement, does it?

A No, it doesn't, in my opinion. There is no question but what the water below the cement would dilute the cement, in my mind, but to what extent it would jeopardize the job would probably depend upon the quantity of cement. If there was a very large quantity of cement it is probable that it would not all became diluted.

Q BY MR. WESTALL: Was it your notion or feeling or experience that there would be a detrimental mixing of the water with the cement in case of the omission of the bottom plug that led you to testify yesterday that you would not accept a license and agree to pay royalties on the Perkins patent if any license were qualified or limited by requiring the use of only one plug?

(Testimony of W. C. McDuffie.)

A I said if it was so qualified that I would cease to be interested because it ceased to be the process.

Q Suppose it was qualified by requiring the use of only a single plug and not permitting you to use both plugs, would you be willing to accept that?

A I shouldn't accept it with qualifications. I have read the Perkins patent in suit; I haven't read it recently, though. In taking a license under the patent and fixing the royalty I would insist upon the right to use the subject-matter of this patent. I wouldn't say if there were a qualification upon the entire subject-matter I would not be willing to pay the royalty that I have stipulated. What I would say was if there was a qualification upon the points which I considered the cardinal points of the patent I shouldn't accept them. If it was qualified that it would be impossible to use the plugs as barriers, I shouldn't want it. It is a cardinal point that the plug can be used as a barrier or an indicator. I consider the use of these plugs to separate water from the cement as a cardinal point of this patent.

Q And in fixing the amount of royalty that you have as a proper royalty to be paid for the use of this patent you intended that royalty to be for the use of these plugs as barriers, did you not?

A When I answered that I contemplated the full scope of the possibility of the use of plug or plugs because I can understand there are jobs where it is advisable to use a top plug as the bottom plug and to use again a top plug or to use two top plugs, one top plug being used as a bottom plug, and there are so many variations of that that in making that statement I considered the entire possible

(Testimony of W. C. McDuffie.)

scope of the use of plugs that fit casings, one below or two below, one above or two above, or one bottom plug as a bottom plug and a bottom plug as a top plug, or one top plug as a bottom plug and one top plug as a top plug. It doesn't make any difference; you can use them in series; and I can explain in detail, if it is desired, just exactly what I mean.

I stated in my direct examination that there is a hydraulic pressure on top of the plug. I mean that whenever a liquid is pumped in on top of a plug it fits a pipe and that there is bound to be put hydrostatic pressure upon that plug. I can illustrate that by saying that if the pipe were upright and plug were put into the top of it and water was poured in on top of that plug there would be pressure on top of the plug, providing the plug fit the pipe and the water did not pass by the plug.

In cementing wells under the Perkins process, at the beginning of the cementing operation for all practical purposes there may be a few feet of space that the water may not come exactly to the surface. Sometimes it is absolutely full and you have to make way for the plug, and sometimes it is down a few feet. It depends upon the circumstances at the moment. If it were not for the hydrostatic pressure above the plug I doubt if we would be able to hold any of these wells in. If we remove the mud from them they are gone; they blow out. That is in this particular territory now, and I am speaking of Santa Fe Springs and Huntington Beach. I mean the hydrostatic pressure would blow them out. That holds the gas into place, and if that gas would get to working in the cement I don't think the cement would set. If you didn't have that

(Testimony of W. C. McDuffie.)

hydrostatic pressure in the hole and the mud were out of the hole, the cement wouldn't set; I assume it would blow out too. Hydrostatic refers to water. A static head is an inert head standing. I don't refer to the pressure of the pump on that water. I refer to the weight of the liquid, whether it is mud or water—the mud fluid. If you took that water out of there I think unquestionably the cement would come back up into the pipe from the outside of the pipe, unless by chance you had seated your shoe into the formation so deeply that the actual strength of the formation would maintain that head outside and would not let it come in. As a matter of fact, we are afraid to bail the casing down itself beyond a certain number of feet, depending upon the size of the casing, for fear that this hydrostatic pressure outside of the casing will collapse it. If you have pumped your cement in and then should immediately go to bailing down on the inside of the casing, either the cement or mud or fluid would have to come back in or else it would mean that you had sufficient bond right around the natural formation to hold the cement or mud or water outside, or whatever it may be. If, after you had pumped the cement in place outside of the casing, you took the head off, this hydrostatic pressure should hold the cement in place outside of the casing.

Q And not have any pump pressure on it and there would be water outside above the cement and the cement would be pumped up outside of the casing, and the column of water in the casing without any other pressure would hold the cement in place outside of the casing?

A Well, I think again we have to consider detailed factors there. If, for instance, you had pumped a very

(Testimony of W. C. McDuffie.)

light liquid down on top of your cement you might have an unbalanced set of pressures and possibly some cement would come back in. On the other hand, if you had pumped down good, heavy mud on top of your plugs and then set your pipe on the bottom and removed your head, I doubt if any would come back. If you didn't set it on the bottom I don't know whether the cement would come back. That would be difficult to say. Theoretically it should not. In the Perkins method the normal process is to shut the pump off while the pressure is on, but, strangely, that pressure seems to dissipate within a very few minutes. I have never known a successful cementing job to be done by, instead of shutting the pump off, just disconnecting the head and taking the head off; I have never tried it. I don't know whether anyone would ever try such a thing; I am not competent to judge; but I have never tried it. In our operations we leave the head on. We have never attempted to rely upon the weight of the water in the casing to hold that cement up outside of the casing.

The bottom plug in the Perkins patent ~~plug~~ is to act as a separator between the liquid which is in the pipe and the cement above, and acts as a primary indicator at the bottom of the hole, in a normal job. That is, the first plug acts as a primary indicator. I have noticed that in a normal job when the first plug hits bottom there is an acceleration of the pump pressure of 50 to 75 pounds. That gives you a line on how things are working, whether or not the pipe is split at the time of pumping down, and we know about how long it should take, and if that first plug

(Testimony of W. C. McDuffie.)

hits within the correct time we assume the job is going all right. We consider that a very valuable function, both the indicating and the function as a barrier. I consider it a valuable function as a barrier to separate the water from the cement because I think the mud and water and cement mix, and I think it is advisable to keep them as clean as possible. If you put in a few sacks of extra cement, in my opinion that would not itself act in all respects as a bottom plug so far as being a barrier is concerned. I don't know how much more cement I would have to put in. In my opinion it is not good practice to put in an amount of cement in excess of the amount of cement necessary to cement the well, to act as a barrier to prevent dilution in the bottom of the well. It might work; it might be practical. There is a further objection to that, that the more the cement mixes with the mud the thicker the mud gets and sets up additional pressures, and it may tend toward precluding the possibility of getting all your cement out. Cement when it comes into contact with the mud, due to the lime in the cement, coagulates the mud, makes it heavy and makes it difficult to move, and that mixing might run to a point where it would be harmful or hold back the possible efficacy of getting the cement in place in a minimum amount of time.

Q Then the bottom plug of the Perkins patent is a feature which is to be considered in fixing the amount of royalty, isn't it; that is to say, if you omit that first plug you would not estimate the amount of royalty so large as you would in the case of the use of both plugs?

A Well, as I stated, I think that it is good practice to use the bottom plug, and I stated further that I thought

(Testimony of W. C. McDuffie.)

the bottom plug should be used. If all operators were satisfied to do away with the bottom plug, I don't know that it would make any particular difference as regards one in business; *by* my personal opinion is toward the use of a bottom plug.

Q BY MR. WESTALL: Of course we are now cross-examining upon personal opinion as to the amount of royalties, and I am merely asking you now in effect whether you would estimate a larger amount of royalty for the use of two plugs than you would for the use of one?

A Well, as long as I had the option of using the plug if requested, I do not think it would make any difference to me. I have already testified that if there was a qualification, if I couldn't have the whole scope of the license, that I would not be interested in it, and establishing that figure of royalty was with the idea of having the privilege of the entire scope of the patent. I gave my answers as to a reasonable royalty for a certain use that was made; and then it was asked me would I start to qualify in taking a license. One was a question of a fair royalty and the other was a question of a license. I don't think I would change the royalty that I fixed for one plug if I could use the second plug. I can't quite differentiate that sufficiently in my own mind. There is a very important advantage in the use of this bottom plug. I would estimate or figure the same amount of royalty for the use of the top plug only as I would for the use of both plugs.

Q In other words, you would consider that advantage of that bottom plug not important enough to make any difference in the amount of royalty that you would estimate?

(Testimony of W. C. McDuffie.)

A No, I don't think I should draw a line. I should put it on an established royalty for the use of either one or the two plugs. I wouldn't add to the royalty for the privilege of using that bottom plug in connection with the top plug. That is entirely a new thought to me. I had never thought of any possible division of it before.

I arrived at the figure of 25% of $250 as a proper royalty for the use of either one or two plugs in the process of the Perkins patent in suit through personal calculations on cement outfits. I at one time had a couple of outfits in the Coalinga field. I found them there when I went with the Shell Company, and I at one time thought I had a patent on cementing myself, and estimated what the cost to run an outfit would be, how much money I could make on it, and so on. I can't recall those figures out of my mind now. I only know what I personally estimated I could run an outfit for and how much profit I could make out of it. Therefore I made the statement, which I would make again, that if I could be licensed to take the business for the State of California on the basis which I mentioned I would take it instantly, and I say that without reservation. That is, I would be willing to pay the 25% royalty and still figure I could make some money. I haven't the slightest idea how much profit the Perkins Oil Well Cementing Company may make, but I believe I can run those outfits and make a profit and pay that royalty. I can't recall my figures on that. I only know I arrived at that conclusion through calculation. Certainly I have an idea how that calculation was arrived at, but you asked me to state my figures and that I cannot do. I took into consideration the cost of an outfit and the cost of pumps.

(Testimony of W. C. McDuffie.)

I took the cost of an outfit into consideration at between $6000 and $7000.– That outfit would consist of a truck, two pumps, and mixing boxes and necessary small fittings. I also took into consideration the cost of a man to run the outfit and go along and help, and the depreciation on equipment and interest on the investment. Those figures are something that I can't answer definitely now. I ought to be able to get a first class man to run the outfit for $250 to $300 a month and get an assistant for about $5 a day, $5 or $6 a day. The man to run the truck is just to help. The assistant could run the truck. Say $6 a day. The depreciation on the equipment should amount to—or as I remember it I took what we considered normal depreciation on a truck, which runs around thirty to thirty-three and a third per cent a year. Sometimes we take 25 per cent depreciation. We ought to wipe the truck off in four years. I figure ten per cent interest on the investment. After I got all of those items figured up I arrived at what charge I thought I could make. The normal charge had been, for oil well cementing, $250.

Q What bearing did that have on this 25%? Why didn't you make it 26% or 30% or 5%?

A It all depended upon what my satisfaction would be with the amount of profit. In other words, my way of estimating royalties was that I thought I could pay 25% and still make a profit for myself, and that was the basis of my figuring this royalty. I have figured the profit I could make more in dollars in my mind than anything else. I figured if I were charged 25% royalty that I still could make on a job clear to myself, after all of these figures had been put in, around $30 to $40. I cannot produce any

(Testimony of W. C. McDuffie.)

of the figures; I never tried to save them. The extent of the business I would do had something to do with my estimating that. The volume of the business is bound to come into consideration.

Q How did it happen that instead of making it 10% or 15% you happened to make it 25%?

A It was what I thought was a royalty that one could pay and still make a considerable profit. It was what I considered would be a fair amount for the benefit to be derived.

MR. WESTALL: In view of the last answers of the witness I move that this entire deposition be stricken out and not considered. He is plainly merely guessing at the amount. It is just an arbitrary amount that he has guessed at. All his supposed qualifications as to other patents are not shown to have any relevance or bearing upon the present problem at all, and I submit that the testimony is clearly shown to be valueless, the witness not having been properly qualified, and it showing clearly that he has no basis at all and has produced no basis for estimating what he asserts is a proper royalty.

THE MASTER: Motion denied.

MR. WESTALL: Exception.

Q Did you consider the intrinsic value of this process in arriving at the amount of this royalty?

A I don't understand what you mean by the intrinsic value of a process. As I meant the intrinsic value, it was of a tool. I meant the cost to manufacture the tool. I don't quite understand what you mean by the intrinsic value of a process.

Q I supposed in using that term you were referring to the process of the patent in suit.

(Testimony of W. C. McDuffie.)

A We were talking about tools. You were questioning me about tools. I considered the value of this process to the industry in fixing the amount of royalty. I considered it the most successful and best cementing process and therefore of very great value to the industry, and as such that it had a distinct value. I dealt entirely with the price. I was asked a specific question with a distinct price basis. I was asked, "If it is $250 how much could you afford to pay?" or "How much would you pay out of the $250 as a royalty?" I might put an entirely different price upon it if I had it to give to the industry. I was considering this process distinct, as an entity. I didn't fix the value of the process; I fixed the percentage of the charge. First I had in mind what I thought could be made out of the work. I didn't consider any other processes in so far as the use of this particular type of cementing was concerned, because in so far as I was concerned I considered it the only efficacious method of cementing. I did not compare this process with any other process of cementing wells that I knew of in arriving at my general idea that this was a valuable process; I didn't know of any other good process to compare it with. I did compare it with what I knew, but I didn't know of any other good process.

Q So in making this estimate of the value of this patent and figuring the amount of royalties that you have, you have assumed that this was the only practical process of cementing oil wells; is that correct?

A Normally speaking; because, as I have testified, there are other jobs where you can use a dump bailer and so on that will work out, but for the normal use of oil well cementing I considered this as the only really avail-

(Testimony of W. C. McDuffie.)

able process. I mean in this field and other similar fields; generally speaking, for the cementing of oil wells. They occasionally use the tubing process at the present time, and they charge just as much for cementing by the tubing process as they do by this process. I wouldn't put it that they use the tubing process in cases where this process has failed sometimes, and use it successfully, and I wouldn't put it very nearly that way. I would put it this way: that there might be cases where it seemed in our mind more efficacious to use the tubing method than the Perkins straight casing method, but where we use the tubing method we use the Perkins process, because we use the plugs for the sake of measurement. In placing my value upon this patent I did not compare it in any way with a straight casing process in which no plugs whatever were used, because I wouldn't consider the use of such, because the cement would become adulterated and because you cannot possibly be sure of proper measurements. I mean to say you cannot be properly sure of your measurements. If there are cementers in the field at the present time that they are cementing wells continually without the use of any plugs at all or any barriers to separate the water and cement and they measure the cement in, I don't know anything about them. I have never heard of any operator that uses that method in casing. I am not conversant with pumping the cement through the casing, that is, using a method similar to the Perkins process but dispensing with the plugs and measuring the cement. So in placing my value upon this patent I did not compare this patent with any such method. I considered it a wholly inadequate and unsatisfactory method and I wouldn't even give it con-

(Testimony of Paul Paine.)

sideration. I have cemented too many hundreds of wells and know the variation of the pipe too well and know the human element in cementing to ever possibly conceive that that process could be properly administered.

Q Why do you say that that method could not be used?

MR. L. S. LYON: We object to that as totally irrelevant on this accounting, and immaterial.

THE MASTER: Overruled.

MR. LYON: Exception.

A In the first place, I dislike the idea of the adulteration of the cement and the fluid. In the second place, the manufacturers allow an over variation in the pipe of 5% and in a long string of casing that variation may run into numbers of cubic feet, and irrespective of meters that are notoriously inaccurate, gas and others, you cannot get an exact measurement at the time when the last part of the cement goes out of the pipe.

Q In other words, then, in considering this Perkins patent of value over such a method, you had in mind simply the function of the upper plug, or either of the plugs, of indicating when the cement had reached its proper place?

A Not only. I also mentioned the adulteration.

PAUL PAINE,

called for Plaintiff, sworn, testified as follows on

DIRECT EXAMINATION

by Mr. Lyon:

I am the same Paul Paine who testified in this case before Judge Trippet. I have been in the oil business for

(Testimony of Paul Paine.)

about fourteen or fifteen years. My first experience was in the Midway fields in California, for the Honolulu Consolidated Oil Company. I was an engineer and field worker, and became with that company a foreman, and finally general superintendent of the company. And in 1917 I went to Oklahoma in charge of the field operations of the Gipsy Oil Company, which is the producing company of the Gulf Oil Corporation.

Before going into the oil business I graduated from the Massachusetts Institute of Technology in 1905. I was with the Gipsy Company until the end of 1919, and during that time I had charge of their field operations in the Mid-Continent field, that is, in Oklahoma and Kansas and in Kentucky as well. After 1919 I branched out on my own hook. I was operating on my own behalf and with a consulting engineering business, and have continued along that line with the exception of a period during which I was in the organization and on the board of directors of the Union Oil Company, and also a period of one year that I was vice president of the Shell Company of California. At present I am operating on my own behalf in California. I am not drilling any wells down in this field.

From May, 1921, to June, 1923, I had knowledge or experience in or about the Southern California fields of Huntington Beach, Santa Fe Springs and Long Beach. I returned to California in the autumn of 1920 and have been in California practically all the time since then, with the exception of several months in the Mid-Continent field and in Europe, and during that time I have been in more or less touch with the development operations in Southern

(Testimony of Paul Paine.)

California. During the period from June, 1922, until June, 1923, I was vice president of the Shell Company of California and in charge of the field operating and the business which had to do with the drilling of the wells. Prior to June, 1923, I had the position Mr. McDuffie now has; he succeeded me.

MR. L. S. LYON: I would like to state, for the Master's benefit, that this witness explained the Perkins method to Judge Trippet by means of a blackboard, and his testimony shows that he is thoroughly familiar with the Perkins method and has used it, and so forth.

THE WITNESS: I have given consideration to what would be a moderate and equitable royalty for the use of the Perkins process of cementing. The matter came up either in 1916 or 1917, when I was superintendent of the Honolulu Consolidated Oil Company of the Midway field, and at that time I was cementing our wells with our own cementing outfit. Our operations were great enough to warrant maintaining an outfit of our own, and we used a method quite dissimilar to the present Perkins process, but we did use a plug in the hole. I was told by someone at that time that Perkins had a patent and in the course of discussions of various business matters with my company I remarked of that fact to one of the company officials who was in the field from San Francisco, and said that possibly Perkins might be coming down on top of us sometime because of the fact that we were doing our own cementing. I knew nothing whatever of the merits of any patent contention as far as that was concerned, but I suggested the possibility that it might be found necessary to make a deal with Perkins by means of which we might

(Testimony of Paul Paine.)

get the use of the patent rights if they existed, because I was desirous of continuing to do our work with our own outfit. We had some discussion and the matter was simply left in my hands, that if Perkins came along and showed us what he had in the way of a patent and it was considered necessary to make a deal with him, that I should go ahead and make a trade with him and to pay him a royalty, but if possible not to have him do the work for us, and at that time I was given by the Company an upset limit of $50 per well to go to him as a royalty. The matter never came to a head, and that was the only consideration that I have given to that feature. It was simply left that we would, if necessary, make a deal with Perkins, paying him $50 a well.

I am familiar with the method that is employed by the defendants and adjudged to infringe in this case, in which the defendants have eliminated the use of a bottom or lower plug and employed either a shoe guide or a ring or a spacer to arrest the top plug in the casing and add a small quantity of liquid cement above the top plug.

Q I will state to you that the account filed by the defendants in this case shows that between approximately the 1st of May, 1921, and the 1st of June, 1923, they cemented by such infringing method in the Southern California oil fields approximately 280 wells; and I will ask you to consider the nature of the Perkins method which is the subject of the patent in suit, its utility and advantages, and give your opinion as to what would be a reasonable royalty for the use of such patented method by the defendants in the manner and to the extent stated.

A I would count that a moderate and a reasonable royalty would be $50 per well. I base that opinion upon

(Testimony of Paul Paine.)

the value of the process and as to what it generally cost to do the work and the fact if I could get the right to use the process for $50 a well I could make money with it. I would have to do some figuring as to what would be the maximum royalty. I would consider $50 as a moderate and reasonable royalty and one that would be entirely equitable. I figured I could get $250 per well for doing the work. My royalty rate is based on the prevailing list price for cementing, if I could go out and rustle enough work at $250 so that there would be a nice profit in it.

Of course the values involved or the costs involved in the drilling of these wells in Southern California are so great that it is difficult to measure the real value of either the complete cementing job or the royalty right. The wells are much deeper, of course, and in many respects more difficult to drill than the wells which were drilled five and six and seven years ago, and some of the cementing methods which we then used would be certainly unwise to employ, and I doubt if in fact they could be used. Certainly I would not desire to experiment with them on the drilling of these wells in Southern California, if the Perkins method were available.

On

CROSS EXAMINATION

by Mr. Westall the witness testified:

My first experience in cementing oil wells began in 1910. I was not familiar with processes which had been employed, except from hearsay perhaps, prior to October 27, 1909. In fixing the amount of royalty I first considered the question in 1916 or 1917. At that time I was cementing wells by the tubing method, using a plug, going

(Testimony of Paul Paine.)

down in the tubing. That was in 1916. I used that plug in the tubing to follow down on top of the cement, to push the cement ahead of it, and to act as a separating agent between the cement and the water which pushed it down. I had a swedged nipple at the bottom of the tubing. Then the plug went into the swedged nipple, and when that hit the bottom of the tubing it stopped our pump. To answer your question as to how the measure of value was reached at that time, we were using this tubing method and had a considerable quantity of cementing work going on, and I had been informed that Perkins had a patent which covered the use of any plug in a well for the purpose of separating the cement from the water, by means of which it was introduced into the well. As I say, I knew nothing whatever about the merits of this thing, but since there was some possibility that Perkins might come around and bother us I had a discussion with Mr. A. C. Dieriox of San Francisco, who was an official of the Company and my superior. The conversation which we held at that time I can't recall, but I can be quite sure that the train of thought was as follows: that Perkins was charging some $200 or $250 per well for cementing the wells; if Perkins' patent could prevent us from doing our own cementing so that we had to call upon him to do the work that we might better afford to pay him a royalty and to continue to do our work than to have him come in and do it, because we could do it cheaper, even though paying a royalty. The amount of $50 could not have been reached in any definite, tangible way, or from any specific line of figures. It was simply a broad figure that was my conclusion at that time as to what we could afford to go to. I

(Testimony of Paul Paine.)

knew nothing about the patent value technically or the scope of the patent at the time I figured on paying that royalty. I had not seen the patent and had not had the matter reviewed and had not figured on paying the royalty without having a review of the subject made. I understood that Perkins was charging $250 at that time, and I figured $50 was what I could afford to pay rather than to employ him to do the job. It is not correct that I figured it would be cheaper and better for us to make some such arrangement as that than to run the risk of being subjected to a suit for infringement. I figured that if Perkins came to me I would then have the matter reviewed by our own attorneys, of whom we had a great many at that time, and then in case his patent did in their opinion stand up, why, $50 was the measure of what I would try to horse-trade with him on.

I have never had any experience in estimating or fixing amounts of proper royalties to be paid upon other oil well and cementing apparatus or processes. In the 1916 negotiations or my consideration at that time I made no examination of patent papers or anything of that kind, nor did I make any comparison with any other prior art methods that I might have employed. I was getting by doing my own cementing with a method that under our operating conditions was giving us satisfactory results.

Our wells generally were 2600 to 2800 feet, and our cementing string was usually landed at around 2200 to 2400 feet. Occasionally we would have a well as deep as 2800 feet, but 3000 feet was a deep well with us; and we cemented two strings of pipe in those wells because we had a very high pressure of dry gas to combat and that

(Testimony of Paul Paine.)

was the gas which we were supplying to Los Angeles at that time, and it was necessary to protect that.

I had been using that tubing method with the swedge nipple from the spring of 1911, and I used that method continuously until I left California in 1917, except that I eliminated the plug, and pushed the cement down with water and estimated the amount of water necessary to fill the tubing and measured that water in a tank, and when that much water had been pumped in the pumping was discontinued. I was simply told of that method of the use of the swedge nipple and the plug in the spring of 1911, but had never observed it prior to that time. I had never seen it used until the spring of 1911.

Q You have stated that you dispensed with the use of this plug in the tubing. Did you find that the water did mix with the cement when you left that plug out so as to in any way interfere with the successful outcome of the operation?

A You have two questions there. As to whether it mixed I can't tell you because I had no means of observing what happened down at the bottom of a deep well. As to the second portion of your question, I would say that we obtained very satisfactory results with that method. If that method is being used in California at the present time, I don't know of it; but it may be used in other places. I never pumped the cement directly through the casing without the use of any tubing; never did that at any time.

In fixing or estimating the present royalty for the Perkins patent, two considerations of chief importance are, first, the costs and values involved in connection with

(Testimony of Paul Paine.)

the wells that are drilled, and therefore the importance of using the most dependable method that may be obtained in order that the hazard may be reduced as far as possible; and the second is the price of $250 that is charged for cementing a well. Neither of these features can be specifically translated into detailed figures, and the amount of $50 per well is merely a composite effect of a consideration of those factors. I cannot follow out a complete chain of computations if that is what you require.

I would consider $50 as a moderate royalty. As to what constitutes a proper royalty I don't know, because I don't know the law in such matters.

Q So far as you know there is no definite rule or method by which you could arbitrarily say that $50 or $60 or $49 was a proper royalty; it is more or less a matter of just arbitrary fixing, isn't it?

A No, you are wrong. As I said, at $50 royalty I would be very well satisfied in my own mind if I could engage in the cementing of oil wells and make it highly profitable in Southern California. In fixing a royalty I do not fix an amount which would enable me to stay in business and make a profit. That is just one measure of it. It could be fixed at $25 or $75 or $33.50 and still one could make a profit at cementing wells. If it were fixed at $25 you could make just that much more profit. If you fixed it at $100 I think I could make a profit. I think so enough that if I had an option on the use of it at $100 I would be willing to spend considerable money investigating the merits of embarking in the business. I don't think I would attach too much importance to an exclusive license. If Mr. Perkins kept the price at $250 I might figure on

(Testimony of Paul Paine.)

going into competition with him at that figure. If I could get an option on the right to embark in the business in Southern California at a royalty of $100 I would be willing to go out and investigate it and go into it thoroughly, because I don't think that having exclusive rights always benefits one. I don't know whether they charge approximately the same price for cementing a well by the tubing method.

(Adjournment was had until October 25, 1923, at 10 a. m., at which time the witness testified further as follows on further Cross Examination by Mr. Westall:)

I don't know how long the price of $250 for cementing wells has prevailed in this locality in California, because in the early days I was not having the work done by a cementing company. It is my recollection that the price was $250 back in 1914 and 1915, but I had no work done myself at that time. I don't know whether that price covered other methods of cementing or not except in this respect, that a man named Scott was cementing in the Midway field in 1915 and 1916, and he quoted me a price of $250 at that time for cementing by the tubing method, using a plug in the tubing, along lines similar to the method which I was using at that time. Of my own knowledge during the past two years I have known of the price as $250. The only price I have known of has been the price of $250 charged by the Perkins Company for their work. I have no knowledge whatever of prices charged by anyone other than Perkins for cementing jobs in the last two years.

I cannot give you the exact depth at which I have attempted to cement a well by the tubing method. I am

(Testimony of Paul Paine.)

quite sure that I have put cement into a hole at depths around 3000 feet, but very little deeper. I think those jobs I have in mind were successful.

Q And do you know of your own knowledge and your own observation whether or not it is practical and common to cement wells by the tubing method that are 3000 feet deep?

A That question would have to be more specific to call for a general reply because the operating conditions would govern. Unquestionably in some of the Mid-Continent fields it could be done quite readily with the tubing method. In other districts in the Mid-Continent field and in many districts in California I would consider it unwise to use the tubing method at depths greater than 3000 feet. We cemented wells at 2600 to 2800 feet right along successfully as a matter of common, everyday practice. I would not say it is practical in almost any field and under almost any conditions to cement a well by the tubing method which was 2600 to 2800 feet deep. Almost any field covers so much territory that I couldn't vouch for being able to use the tubing method in almost any field at those depths, because many fields have conditions of caving formations which cave in around the pipe to such an extent that the pipe when put into the hole is kept free, that is, may be moved upward and downward readily and a circulation of fluid around the pipe maintained only with great difficulty; and the time which elapses in running in the tubing into the hole might very well, and frequently does, occupy a sufficient time so that the pipe would become frozen or the circulation would become lost; and for that reason I would not consider that the tubing method

(Testimony of Paul Paine.)

could be laid down as a universal panacea for cementing even at 2600 or 2800 feet. Under the circumstances and conditions I have mentioned, where it is difficult to maintain circulation on account of caving of the well, I would use a method which took just as little time to put into effect as is possible once the casing has been run into the hole. My own choice would be and has been the Perkins method.

I have never had any experience in the use of a process similar to that of Perkins, that is to say, after circulation is obtained the cement is put into the well and forced up by pump action up outside of the casing, and no plug whatever used. I would say that method would not be feasible; it would not be advisable. In my own mind feasible means that it might be done in some instances but not enough percentage of cases to make its use advisable. But I have had no actual experience in the use of such a process, omitting plugs. The first consideration in non-feasibility of cementing a well without the use of plugs would be the use of a plug as a separating medium between the cement and the other fluids. The second reason would be the use of the plug as an indicating agent, to inform us when the cement is all out of the bottom of the casing. The third reason would be the use of the plug in informing us if the casing has been split. The plug would inform us if the casing was split because the plug would not go readily to the bottom then, and the fluid would pass out through the opening in the casing and come to the surface, and in that case the plug would not reach the bottom and then stop the pump. If there were a split in the casing then

(Testimony of Paul Paine.)

the plug would not stop the circulation of the fluid. It would be very unusual for the plug to be stopped by the breaking of the casing. You would know that there had been a break in the casing because the plug would not stop the circulation of the fluid. The fluid would then pass out through the split in the casing instead of going on clear down to the bottom of the casing and coming out. Under those circumstances there wouldn't be any method used to complete the cementing. We would pull the casing out and replace the split joint with a new joint.

I consider the function of the plug acting to separate the water from the cement a desirable function, but not absolutely vital. I do not believe if the cement were not absolutely separated from the water it would not necessarily jeopardize or impair the cementing operation. I think that in many instances, or in some instances, one could take a chance of getting along with-out a plug and estimate the amount of fluid that is pumped in, but it would be largely guesswork and would not have the positive character that the use of the plug gives to the method.

I have had experience in measuring or estimating the amount of cement into a well in the use of the tubing method. I found it entirely successful in that instance; but I account for that by the fact that the amount of water to be measured in that case is very much smaller than the amount of water which would be necessary with the use of the casing, and it is therefore susceptible of much closer control. There would be that difference in the amount of water chiefly because the area of a 2-inch

(Testimony of Paul Paine.)

tubing is much smaller than the area of a 6-inch or 8-inch or 10-inch casing and because the water may be measured readily with the use of tubing. The amount of water required is comparatively small, whereas the amount of water required to fill a string of 6-inch or 8-inch or 10-inch casing is very much larger and would present mechanical difficulties in the field operations. There is very little variation in the cubic contents of a 2-inch tubing; they all run very close to size.

At the beginning of cementing a well by the tubing process you first obtain a circulation down the tubing, and the tubing is in the casing, and then the circulation goes up the space outside of the casing. The space inside of the casing is filled with mud and water and the stop is put on the top between the casing and the tubing. The space at the top of the hole between the casing and the tubing is closed off with a packer. That space is filled with liquid, and, the liquid being incompressible, the fluid which is pumped down inside of the tubing must come up on the outside of the casing. The cement cannot come up into the water and displace it. The cement is going to go in the direction in which it can flow, and since the space between the tubing and the casing is already filled with mud water it is going to remain quiet. If this space between the casing and the tubing were not filled with water, then some of the cement might come up in it, but water is incompressible and the fluid therefore passes outside of the casing and up between the casing and the wall of the hole. In either the use of the tubing method with a tight head or the casing method, in which you pump through the casing and not a tubing, and have a

(Testimony of Paul Paine.)

tight head on the casing, the well is full of water. You naturally would measure the amount of cement in in both cases.

Q What particular objection would there be then to dispensing with the tubing and pumping the cement directly through the casing without any tubing and pump it up outside of the casing?

MR. LYON: We object to that as irrelevant and immaterial in this proceeding.

THE MASTER: I will overrule the objection on the basis that it will be shown that it is a part of the prior art.

MR. LYON: Exception.

A My objection to that would be twofold: first, the absence of the packer would fail to tell you with positiveness when the cement had passed out of the bottom of the casing, except in so far as you relied on computations of the amount of water pumped in; and, second, the cement would be expected to lag along on the sides of the casing to a certain degree, causing a mixing of the water and the cement, whereas the packer exerts a certain degree of scraping influence on the side of the hole and keeps a cleaned separation of the cement from the mud water. As to the extent the cement might mix with the water if the plugs were dispensed with, I have no definite experiments or observations on this particular point, except the common knowledge that there would be a lag along the inside of the casing. The flow of the fluid is fastest in the center of the pipe. I think in the tubing method there would be even a greater lag and more of a ten-

(Testimony of Paul Paine.)

dency of the cement to mix with the water by reason of that friction than there would be with the casing.

Q So that if it is possible to successfully cement a well with the tubing method without any plug, and you find that it can be done without the detriment or objection that you refer to, would that not be a reason for assuming that you could also do so with the casing method without any tubing?

A No. In the first place, while your percentage of lag of the fluid in tubing might be greater, yet the actual area presented to the cement is much greater with casing than with tubing, the tubing having usually a diameter of 2 inches or 2½, whereas casing which is commonly cemented has inside diameters of 6, 8 and 10 inches. I think there would be more cement remain behind when pumping down in the casing than when pumping down in the tubing, and there would be a greater measure of dilution and mixing of the cement with the fluid. I am just giving you the best I can on it. My judgment in this matter is what would prevail in drilling my own wells and in spending my own money.

This matter of friction and the passage of fluid through pipes is a matter of which engineers have knowledge. For instance, in connection with the matter referred to, it is established beyond any question of doubt that in the passage of fluid through a pipe the velocity is greatest at the center of the pipe. It is not correct to say that the question of friction down in a 3000 or 4000-foot well is something that calls for mere speculation, with no actual knowledge of what the result would be. The knowledge which we have as to the flow of

(Testimony of Paul Paine.)

fluids in pipe would obtain as to mud water, water, oil or fluid cement, and we know that as to the passage of all fluids through pipe the velocity is greatest at the center.

I do not know what proportion of the cement being pumped down through a tubing or a casing would become diluted with the water to such an extent that it would not harden and would not form a proper shut-off if that cement were used outside of the casing.

As to why I think you can leave out the bottom plug without a vital objection, whereas you can't leave out the top plug without a vital objection, the dilution at the bottom is not going to be of great importance, but the lag of the cement on the inside of the casing as it goes down the hole, with the resulting dilution of the cement with the water at the top of the column of cement as it goes in, means that the condition of the cement will be uncertain at the bottom of the hole when that cement has gone out of the casing and risen in the hole, because what was then the top of the column going down inside of the casing rests at the bottom of the hole. I do not think that lag on the inside of the casing would be sufficient so that the lower water would come up through by reason of the lag of the cement, but the cement that lags on the inside of the casing would become mixed with the mud water which is pushing it down. This is in a consideration of this column of, first, mud water, then on top of it cement, then on top of it water, all being introduced into the hole without the use of any plugs whatever. It would be the top water that would make the dilution of the cement where you want your bond. If you put in suf-

(Testimony of Paul Paine.)

ficient cement you would have enough there if you kept enough up above the bottom of the hole on the inside of the casing; but it is desired to get as much of that cement as possible outside of the casing at the bottom and not leave it inside of the casing. Under those circumstances there would be no way of telling where your good cement was and what was bad cement. There would be nothing positive about the cement around the bottom of your pipe.

Q Assuming that we leave off the top plug, and assuming that you are correct that there would be more dilution from the top water by reason of this lag in the cement, would it not be merely a question of adding a few more sacks of cement, which cement would perform the function, so far as preventing dilution was concerned, of the top plug, that is, would form a barrier to prevent the water from coming in contact with the cement that was actually intended to be put up outside of and around the bottom of the casing?

A Well, this additional amount of cement to which you refer in no wise differs from the original body of cement. You estimate that you need about so much cement, that is, you measure it. If you pile in a few extra sacks to prevent dilution of the top portion of the cement, as to that performing the function of a plug in preventing a dilution of the cement fixed around the bottom of the casing, one would not know then when the good cement, which has not become too much mixed with water, has gone outside of the casing, and what portion of it may remain inside of the casing.

Q If you could definitely measure your water so that you would know and you would leave, say, 20 feet of

(Testimony of Paul Paine.)

cement or 30 feet of cement at the bottom of the pipe there, wouldn't that extra cement prevent the dilution?

A The measuring with that degree of exactness would be very difficult and one might well either have one of two conditions exist: have that fluid which remains outside of the casing at the bottom of the hole contain too much water to permit a good set of the cement, or might have not enough of the cement pass to the outside of the casing so that the inside of the casing is full of cement which sets, and that is not desirable.

Q That might break the casing then, might it?

A And in drilling it out one might have some difficulty. That is frequently done and we never know whether it causes the pipe to have holes cut in it or what happens down there definitely; but what is desired is to have the good cement just outside of the casing at the bottom of the hole with the fluid that is left inside of the casing sufficiently free of good cement so that it is not going to set with a tight bond, and that is the value, of course, of the plug, because it tells the story as to when the cement has passed out of the bottom of the casing.

As to the exhibit which has been introduced here, Bulletin 163 of the Department of the Interior, "Methods of Shutting off Water in Oil and Gas Wells," by F. B. Tough, I can't say that I have read every word in it, but I have looked through it and read portions of it. I can't say now whether I agreed with the statements and matter in this book.

Q At page 50 there is a heading, "Casing Method Without Plugs or Barriers," which is discussed very

(Testimony of Paul Paine.)

fully, and on page 52, after discussing the subject generally and giving a number of instances, one instance in which the hole was 4135 feet deep, in the Coalinga field, and discussing the amount of cement that was used, the author says near the top of page 52: "The conclusion seems justified that when cement is pumped down inside the casing 10 inches in diameter or smaller, without the use of plugs or barriers, the cement mixture and the other fluids in the hole tend to intermingle, though as a rule this intermingling is not serious, particularly when the cement has originally been mixed with only a small proportion of water." Do you agree with that statement?

A No, I would not agree with that statement.

Q Then appears the following: "The second question as to how to determine the time to land the casing brings out a serious weakness in the method. As either a meter or a gage tank may be used, the relative accuracy of gaging or metering the wash water is not the question at issue. Considering that such gaging is usually done in 50-barrel or 100-barrel tanks that have been dumped off the trucks numerous times, and had their sides dented, to be afterwards driven out to restore more or less the original shape of the tank, the writer thinks the relative accuracy of the two systems is about the same. The meter is more easily read than the low gage wet line mark on a notched stick, particularly if the cementing is done at night. The use of the meter also reduces the chances of error by eliminating one set of computations. All things considered, assuming no errors in computations, the general average of ten cubic feet of allowable variation between the volume of measured water and the actual

(Testimony of Paul Paine.)

capacity in a 2500-foot hole of 10-inch casing is a close limit. This is an allowable error of about 0.7 per cent, and is here applied alike to both methods of measurement. 10 cubic feet in 10-inch casing occupies about 18 linear feet; that is, an operator's computations should allow for leaving at least 18 feet of cement in the casing to obviate the possibility of washing the cement away from the shoe. He may find either no cement or about 36 feet of it in the casing, according to whether the allowable error has been plus or minus. Many operators do not object to this feature, and sometimes require that 10 to 20 feet of cement be left in the hole.

"There are two causes for such a requirement: first, the fear that too much water will pump the cement not only to the bottom but up outside the casing and away from the shoe joint to a point where it is not needed. An excess of water will undoubtedly produce such a result. The second cause is the claim that the latter part of a batch of cement is 'mushy' and had better be cleaned out of the hole later than to be put behind the casing and not do its work. This contention is supported by the results at numerous wells, where the cement left inside the casing had a few feet (at some wells 20 feet) of mushy, chalky deposit on top, the underlying cement being set hard. So firmly is this conviction held by some operators that even when using the two-plug method they drop a timber four by four inches by 20 feet in length into the casing between the plugs, which will stop the second plug 20 feet above the first, thus leaving this amount of cement in the bottom of the casing.. This practice does not refer to instances where a timber, say 10 feet long, is used to

(Testimony of Paul Paine.)

obviate the danger of both plugs escaping from the casing."

Do you agree with these statements?

A I can't pass on those statements as to the convictions expressed by other people and so on. I can say that working at the oil fields with a degree of exactness in the range of 0.7 of one per cent is a greater degree of accuracy than we are usually able to obtain under the working conditions and with the conditions that we have to meet.

(The following further quotation was added by Mr. Lyon: "If some form of casing method is to be used, the writer would prefer the two-plug system without the use of a timber between the plugs, unless, owing to certain peculiar conditions of the hole, such a timber should be necessary to prevent the second plug as well as the first from escaping.")

THE WITNESS: I can say that I knew the writer for a good many years at the time that he had supervision of the cementing operations of the Southern Pacific wells in the Midway field, and I never knew him to use the method of putting the cement in without the use of plugs.

Q Now, is it not a fact that a successful cementing job could be performed without tubing, pumping directly through the casing and without the use of any plug, and that it is merely a question of putting enough extra cement in to be sure that the dilution you have spoken of does not work to the detriment of or so as to jeopardize the job in any way?

(Testimony of Paul Paine.)

MR. LYON: That is objected to as irrelevant and immaterial.

THE MASTER: The objection is overruled.

MR. LYON: An exception.

A No. This work can be done this way, and in some cases a successful job may be effected; but, as I said before, dispensing with the use of plugs introduces a hazard that is unnecessary and would be a step backwards. In giving that testimony I am not dependent upon any actual observation of the use of that process; I am just answering your question, as to my judgment in the matter.

Q Do you know, as a matter of fact, that that method of cementing wells, without the use of any plugs, is being successfully used at the present day?

MR. LYON: That is objected to as irrelevant and immaterial and not cross-examination, and as having been fully answered by the witness.

THE MASTER: The objection is overruled.

MR. LYON: Exception.

A No, I do not know of that method being followed. When only the top plug is used there must be some mixing of the bottom water with the cement, but it is not to be expected that it will be as great as the mixing of the cement with the top water.

Q And in the use of the one-plug system, the plug used on top of the cement, one would naturally correct that tendency to mix at the bottom by the use of an extra amount of cement, would he not?

A I do not see how an extra amount of cement is going to alter the condition of the column that goes down

(Testimony of Paul Paine.)

in the hole, where there is, first, the mud water, then above it the cement, then above that the column of mud water, which pushes it down. Now, if that cement is increased by an additional quantity of cement it simply increases the length of the cement column. The mixing will not be as great at the bottom as at the top, because the cement is more dense and will tend to drive the mud water ahead of it when going down the hole much more than the mud water at the top will tend to drive the cement in a compact body ahead of it.

Q What I mean is this: that in using this one-plug system, using the top plug and knowing or having the opinion which you apparently hold, that there will be a dilution of the cement that comes in contact with the bottom water, you would add a sufficiently large amount of cement to take up for that dilution, would you not? That is to say, you would know that a certain proportion would become diluted by the bottom water? Now in order to take up for that you would add a little more cement, would you not?

A That could be done. I do not think as an operating practice I would pay any attention to that; that is, if I were putting in 200 or 300 sacks of cement the operation would not be conducted with a sufficient degree of accuracy for me to feel that I could add a few more sacks of cement and accomplish that result, because, after all, we do not compute right down to a fine point the cement we put in, generally; we say we will run 60 sacks or we will run 100 sacks or 150 sacks. We have to allow enough cement over and above the exact calculations to be sure that if there is some little dilution we will have enough

(Testimony of Paul Paine.)

good cement in there; and we feel that the dilution at the lower portion of the cement when it is being run into the hole is of lesser importance, because that mixed and sloppy collection of mud water and cement is going to be at the top of the column when the cement has passed outside of the casing. If one calculates, when he omits the top plug, or measures out enough cement so that he will have 40 or 50 feet of cement in the bottom of the casing, he does not thereby remove all objections to the omission of the top plug, because, in the first place, he leaves a large quantity then of cement in the inside of the casing at the completion of the job, and he is deprived of the use of the plug as an indicating agent for telling when the cement has all passed out of it and for the detection of splits or imperfections in the casing.

Q Please explain how the plug would assist in discovering or giving notice of splits or imperfections in the casing.

A When the column of first mud water, then cement, then the top plug, if the top plug only is used, and then on top of the top plug more mud water, is being pumped down the hole, if the casing is tight the only means for this fluid to pass out of the casing is found at the bottom of the string of the casing. If there is a split in the casing through which the fluid may pass readily, this fluid will then pass through that opening and come to the top on the outside of the casing instead of going down and around the casing shoe. Now, when that is the condition the top plug, upon passing by this split opening, will cease any further motion; it will tend to remain quiet or go down very slowly, and the fluid will continue

(Testimony of Paul Paine.)

to pass through the split and come to the surface. In that case the plug then does not reach the bottom of the casing, and through closing the opening stop the pump, and in that way it indicates. In other words, you keep on pumping indefinitely and the plug apparently never reaches the bottom. After a period when the plug should be reaching the bottom of the casing and stop the pump we find that it does not do so; and we observe further that the fluid pumps with a smaller pressure—it doesn't have to overcome as much friction factor. Observation gives rise to our expectation that the plug will reach bottom in a certain time. We know about how long it takes to pump it in and get all the cement in and to have the plug reach the bottom. It might be ten minutes, and it might be thirty minutes, depending upon the depth of the hole and the rate of pumping. We do not make a calculation in the usual sense of the term, of the time it will take for the plug to reach bottom, but merely our sense of the time that is required as we have derived it from going through a number of such operations; but it is not figured out in minutes or seconds—or at least I have not attempted to do so. The depth of the well, the size of the casing, about where the water is to be shut off, and how much cement will be necessary to effect a shut-off, are all factors considered by the cementer even when he uses the plugs, but they are not, so far as I know, ever calculated to a certainty, because there are many more factors in addition to those which you have named, namely, the friction factor which would be obtained in the pipe, the pressure that is applied to the pump, the rate of pumping speed, the size of the openings, the

(Testimony of Paul Paine.)

number of connections between the pump and the top of the casing—all of those factors would influence the rate at which the fluid goes down the hole.

Q And all of those factors would be considered to some extent in enabling the operator to calculate to some extent when that plug would reach the bottom of the casing, or when it should reach the bottom of the casing?

A They might be considered by him, or they would preclude his determination of when the plug would reach the bottom. So far as I know that would be impossible of ascertainment definitely and accurately.

Q Suppose there is a split in the casing; please state how the operator knows that.

A He has a well of a certain depth, and a casing of a certain diameter, and he is putting in about so much cement. He knows, by reason of similar jobs that he has done, that the time required for the plug to reach the bottom is possibly between 15 and 20 minutes, something of that order of magnitude. Now when that period has elapsed and the plug does not reach the bottom, he begins to worry. He also may observe that his pump pressures are easier than they should be as the plug is approaching the bottom of the hole, and that will frequently be his first warning that there is a split in the casing.

In estimating or figuring the proper amount of royalty I have done so with the opinion or conviction that it was not practicable or desirable or feasible to cement wells without the use of one or two plugs in a large majority of instances here in Southern California.

Q So that if you are mistaken and if it is practical and feasible to cement wells without these plugs, then

(Testimony of Paul Paine.)

your conclusion as to the proper amount of royalty would not be sound; is that correct?

MR. LYON: That is objected to as irrelevant and immaterial for the reason that there is not a proper standard of comparison suggested by counsel.

THE MASTER: The objection is overruled. I think the witness can take care of that.

MR. LYON: Exception.

A Why, as far as my knowledge goes I would at the present time prefer to pay a royalty and continue to use this method over taking a chance on a well with any other methods that I know of. Now, there may be other methods, and it may be possible to show them to me and prove them to me, but the values involved are so great with a well that has cost say $60,000 to $80,000 or more that I would not allow an amount of that kind to interfere with my using what I consider to be the best safeguard for my well. I consider this is the most satisfactory system in use today, and I am going to stay with the bridge that carries me safely over. The drilling of an oil well is full of hazards, a great many difficulties are constantly met and have to be overcome, and it is necessary that just in so far as we possibly can we eliminate or reduce these hazards. Now, in cementing a well I would be very happy to pay a royalty of $50 for the use of the Perkins method over using any other of the methods that I know of in Southern California. That includes this suggestion of the method without the use of any plugs at all.

What I know about the Halliburton measuring line is what was related to me about it in Oklahoma. I have

(Testimony of Paul Paine.)

never used it. I did not testify in the Oklahoma case, but in Ardmore, Oklahoma, I met one of the Halliburton men at one time and he told me about this measuring line device they were using. That is the only contact I have had with it.

I am not related to Mr. Perkins or anyone interested financially in the Perkins Company; and I have no interest whatever, either directly or indirectly, in any of the business affairs of the company. I suppose I will be paid my fees as an expert to testify in this case. I haven't been paid anything. I haven't even discussed the matter of payment. I have testified previously for Mr. Perkins and was offered pay by him and declined it. I have no interest financially or otherwise in this Perkins patent. I have testified frequently as an expert in oil cases. Pay for my services as an expert witness is one of my soures of livelihood. I didn't take Mr. Perkins up because at that time I was vice president of the Shell Company and I was receiving a salary from the Shell Company, and at the time I went to work for that company my arrangement was that I would keep what personal interests I had (that is, I have interests in producing properties and in oil wells) but that I would not undertake any new ventures or undertake any outside practice professionally, so I came down for Mr. Perkins to testify on the matter as an act of good will, I suppose.

I had nothing to do with fixing the price of $1,000,000 that the Shell Company paid for patent 1,070,361 granted to the Trumble Refining Company and assigned to the Shell Company July 2, 1915; that was long before my day with the Shell Company. My first work for the Shell Company began in 1922.

(Testimony of L. J. Whitney.)

On

REDIRECT EXAMINATION

by Mr. Lyon the witness testified:

In figuring that the Honolulu Company could afford to pay $50 rather than turn over their cementing to Mr. Perkins at $250 a well, that $50 was just a portion of the profit. I kept in detail the costs on cementing jobs, but $50 was so far inside the limit that I felt entirely safe that we could pay that and still have a considerable profit in doing our own work.

L. J. WHITNEY,

called for Plaintiff, testified on

DIRECT EXAMINATION

by Mr. Lyon:

My name is L. J. Whitney. I am the L. J. Whitney who testified in this case before Judge Trippet. I am assistant to the president of the Perkins Oil Well Cementing Company, and as such have charge of the original records and books of the Perkins Oil Well Cementing Company.

The letter which is shown me, dated August 30, 1921, from the Standard Oil Company to the Perkins Oil Well Cementing Company is an original letter taken from the records of the Perkins Oil Well Cementing Company. The red slip attached to it is a duplicate bill that was retained in the office, of the original, sent in response to this letter.

(Letter and annexed bill marked Plaintiff's Exhibit 65.)

(Testimony of L. J. Whitney.)

That bill was paid as rendered as shown by the records of the Perkins Oil Well Cementing Company. This bill was sent out on the date it bears, September 30, 1921.

I have the orders received for the use of the Perkins system and the furnishing of plugs therein by the Perkins Oil Well Cementing Company for the territories and instances shown on the statement which has been offered for identification in this case, except one or two where the original order was not furnished and the material was taken by the company direct from our plant and the well report sent in by the man in charge. I want to make this statement in connection with these orders, that the date appearing on the statement itself is not necessarily in all cases—in fact I think in practically no case—the date that appears on the order, for the reason that the order, of course, is mailed from the point from which it is sent and the date given on the statement is the date of our invoice on which the material was shipped and charged.

I made this tabulation, consisting of three sheets, marked for identification Plaintiff's Exhibit 64, from the records of the company, and it is correct, subject to the statement that I have tabulated the amounts received for plugs as distinguished from the amounts received for royalty.

MR. LYON: We ask that Plaintiff's Exhibit 64 for identification be received in evidence as Plaintiff's Exhibit 64, and that the three illustrative order sheets be received as Plaintiff's Exhibit 66, three sheets.

MR. WESTALL: They are objected to as incompetent, irrelevant, and immaterial, this objection going to

(Testimony of L. J. Whitney.)

the entire offer; and on the further ground particularly that Plaintiff's Exhibit 64 for Identification is not the best evidence of division of the $100 into price of plugs $50 and royalty charge $50. And the further objection is made on the ground that there is no best evidence of any agreement of anybody to pay $50 for the use of this process, and that the price of the plugs is entirely irrelevant and immaterial.

THE MASTER: The objection is overruled. The three orders will be received and marked Plaintiff's Exhibit 66, pages 1, 2 and 3.

MR. WESTALL: Exception.

On

CROSS EXAMINATION

the witness testified:

I have charge of the office of the Perkins Company. I have had that connection with the plaintiff about a year and a half. I have charge of the books and correspondence and matters of collections and general matters of business that may come up, and any special duties that may be assigned to me.

I don't know that there are any letters signed by anyone where such person agreed to pay $50 royalty for the use of the Perkins process in suit; but the matter has been always understood by conversation with responsible officials of the ordering companies and our company that the sale of plugs, where we didn't do the work, at the price of $100, always carried with it the right to use our process, and the royalty has always been understood and considered by us from the very beginning of the company to be $50, and that the price of the plug was $50.

(Testimony of O. G. Miller.)

MR. WESTALL: In view of the answer of the witness I move to strike out all the evidence as to royalty paid and as to the division made of the purchase price of those plugs, as incompetent, irrelevant, and immaterial and not the best evidence, and also on the ground that any royalties paid by others outside of this district is not competent.

THE MASTER: The motion is denied.

MR. WESTALL: Exception.

(End of Plaintiff's Exhibit No. 1.)

O. G. MILLER,

called on behalf of the Plaintiff, sworn, testified as follows:

DIRECT EXAMINATION

BY MR. RICHMOND:

THE WITNESS: My name is O. G. Miller. I reside at Long Beach, California. I am a chartered accountant. I believe the first time I met Mr. Owen was in 1922, or 1923. The books of J. M. Owen or J. M. Owen and J. L. Bales were kept by other parties than myself. However, I made an audit over certain periods. The detail entries in those books were made by other parties. (13) I was called in after the entries had been made and made the audit at various times during the period. I made this audit or report, that has been filed by the defendant, around April 15, 1928. I think Mr. Bales made the original record entries.

Referring to Exhibit 7, the first entry is of January 26, 1923, York-Smullen Drilling Company. Referring

(Testimony of J. M. Owen.)

to the second item, Belridge Oil Company, of January 28, I do not know what kind of a plug was used in that job. I believe Mr. Bales was interested in the company at that time. To my knowledge I did not find in the records of Mr. Owen or Mr. Bales any books of J. M. Owen before J. L. Bales came into the business. I presume I would have known it. (14) I didn't handle any.

(Witness withdrawn temporarily.)

J. M. OWEN,

the defendant, called and sworn for Plaintiff, testified:

DIRECT EXAMINATION

BY MR. RICHMOND:

THE WITNESS: I am one of the defendants in this case. Prior to January 28, 1923, I had not been in the business of cementing wells in California.

I am familiar with this Exhibit 7. There is a few wells in that list that the Wigle plug was used on when we first started. To my knowledge, all the Wigle plugs that we used in the cementing of oil wells during our operation are shown in that list as shown in Exhibit 7 to the report or statement that I have filed with the Master. (15) I know that our first well was cemented on the 26th day of January, and it is all there from there on, as far as I know. I did not engage in the business of cementing oil wells in California for myself before Mr. Bales became associated with me. I worked for Wigle before that time, but I had no business of my own whatever or wasn't interested in any business. I couldn't say how many of the wells that were cemented by plugs, as shown in Exhibit 7, we used the Wigle plug on as

(Testimony of O. G. Miller.)

distinguished from the Inskeep plug, but there were around 40 of them used, of the Wigle plugs, before we bought the Inskeep patent. We bought the Wigle plugs from Wigle; I suppose it was Wigle & McBride. (Witness withdrawn.)

O. G. MILLER

resumed the stand.

THE WITNESS: Referring to the last page of Exhibit 7, the total of plug cementing should be $80,250 instead of $8,005. The original shows $80,250.

Referring to the next to the last page of Exhibit 7, in the last column, under date of May 16, 1924, a charge to Adolph Ramish, sale of plug, $28.50, I don't know what kind of a plug that was. I couldn't tell what kind of a plug it was. According to the original sales tickets, no well was cemented for Adolph Ramish by Owen on or about that date. (17) I had the original records, all of them, in my possession; I assume that they were brought up to court, as far as I know. I turned to the account of Adolph Ramish.

Referring to the same page, to the entry of June 12th, Fremont Oil Corporation, there is no invoice here to cover that. Those cash sales entries were made directly into the cash book. Anything was considered as a cash sale, if I am not mistaken, outside of a regular oil well cementing job. Under date of June 12th I find the following items listed: Cementing, $50. Chemical, $15. Plug, $22.80; making a total of $87.80. (18) I presume the bills of the defendant company or partnership were billed the same as they were billed regularly. I

(Testimony of O. G. Miller.)

presume there were copies of the bills kept, but I haven't got those. I do not mean to tell you that my statement is made up and I never had recourse to the invoices or copies of invoices. There were a few plugs that were sold in the form of a cash sale, and some few chemicals, which they did not make bills for, as I understand it; at least I have never seen the bills for them. But very few. There is no daily report showing that $50 charge for cementing. In making this report on file here, I checked against the accounts receivable, and I used the ledgers, cash books, check books, cancelled checks, accounts receivable and accounts payable. (19) By accounts receivable and accounts payable I mean accounts due the Owen Oil Well Cementing Company, at that time, and accounts that they owed at that time. They were evidenced by invoices, which are right here. There is no invoice covering that $50 charge. The only record I have of that was taken from the cash book. I couldn't say what size plug that was. I couldn't tell you the size of any of them. The company kept no inventory showing the number of plugs that the defendant had on hand at any time, outside of going out and counting them. I don't think they had any records showing who manufactured (20) these plugs for them. If I am not mistaken, they were manufactured there in their own warehouse, but I don't know. I couldn't say positively as to that. I had practically all of the original records to make up a statement from. There were some few, as I stated a moment ago, cash sales, where cementing was not done, but any job that was cemented I believe you will find the original records for. I didn't find any for

(Testimony of O. G. Miller.)

that $50 one to the Fremont Oil Company. I got that figure—or it was entered in the cash book as a charge against the Fremont Oil Corporation. There is an entry right here.

(21) I don't believe there is any way to determine how many plugs were manufactured by the defendants while they were in business. There is not to my knowledge. I could give you how many were used. There were 321 plugs used.

Referring to Exhibit 7, in the last column of the next to the last page, I did not add those plugs sold in there as plugs used. I have two different items. I have wells cemented with plugs, 321; plugs sold, 13. The record shows that on the 12th day of June there was for the Fremont Oil Company $15 worth of chemicals sold, a cementing job of $50, and a $22.80 plug used. It is returned as a plug sold. I don't think if that one is added in it would give 322 wells and only 12 plugs sold. (22) I infer that a cementing job. The books show cementing, $50, and it shows a separate plug sale of $22.80. I have no reason to hook that cementing job up with the plug in that one particular instance. What tells me not to do it is that that is not the regular price of cementing an oil well. The regular price is $250. Practically all of the charges are $250. I can't say whether all of them are because I haven't counted them. Practically all of them were $250; I can't say all of them were. To my knowledge there are no records showing the size of any plugs that were used or sold or manufactured, in the records of the company. (23) The books show from whom the defendants bought leather cups for the

(Testimony of O. G. Miller.)

manufacture of plugs. I don't see any of the invoices here. I had those invoices in making up the statement. I assume I have here all the documents and records, outside of the invoices, that I used in making the statement, and I was under the impression they were brought up. If they are not they are probably in my office yet. I am quite sure those invoices are not here. (24) It is just possible they are still in my office.

Referring to Exhibit 4, those items were turned in to me by Mr. Owen himself personally. I do not know what those three items are for. I marked them "Disbursed by J. M. Owen." I didn't see a cancelled check for this one particular exhibit; that is the reason I put it separate. I have no documents for the making up of Exhibit 4. That is the reason for making it separate. I don't know whether or not I so state any place in my report. Exhibit 4 is not disclosed by any of the books and records of the defendant. That is advanced by J. M. Owen personally. I see here below, "In addition to the above expenses, J. M. Owen (25) has advanced, as shown by Exhibit 4, for legal expenses, $1858.31," and explaining Exhibit 4. I believe there are no other entries in this statement that there are no records of, from which this report is reflected. I believe that is the only one. And, as I stated before, that was personal advances.

Referring to page 1 of my report, on December 26, 1924, "Said Owen Oil Well Cementing Company sold their assets, as shown by escrow," and so forth and so on, "for $13,922.56," I believe I saw a copy of that escrow in the bank and also one from Mr. Owen, which

(Testimony of J. M. Owen.)

he has in his possession. I will produce that at the next hearing. I cannot state at this time to whom the sale was made.

Thereupon

J. M. OWEN

was recalled and testified as follows, on further

DIRECT EXAMINATION

BY MR. RICHMOND:

THE WITNESS: I went into the business of cementing oil wells in California for myself first in 1923, about the first of the year. Prior to that time I had been working in the oil fields, cementing oil wells for Wigle, and driving a truck, and pushing tools, and general oil field work of all kinds. Just prior to going into the business of oil well cementing in the early part of 1923 for myself I was employed by Wigle and Cottengim. I think I left their employ in December, 1922, as I remember it. It was just before I went into business for myself. I don't remember the exact date or the month, but it wasn't long after I quit them until I went in business for myself. J. L. Bales, the other defendant, started when I did; both at the same time.

(27) For the first 40 wells we used the Wigle plug in cementing oil wells. After that we got hold of what we call the Inskeep plug. He had a patent on it, and we bought the California rights on it and using it. After the litigation with Wigle and Cottengim we figured that plug was an infringement, and if we could get hold of one that had a patent granted on it, why, we would, and

(Testimony of J. M. Owen.)

we gave Mr. Inskeep $5000 bonus and paid him a royalty on that plug and went to using it. I couldn't say who manufactured the Wigle plug for us. We manufactured the Inskeep plug ourselves. As I remember the material from which we made these plugs, we bought the lumber from the Hammond Lumber Company of Long Beach, and we bought our dogs, cast iron dogs, from the Long Beach Foundry, and bought our rubber packing that we used on it from the West American Rubber Company of Los Angeles, and the leather cups that we used on some of them, not all of them—I don't remember who it was, but it was some leather company in Los Angeles where we bought those; but we didn't use them on half of the plugs. We always cut a piece of belt and nailed (28) it on top of most of them. We made the wood part, all the wood part, of the plug, and that is practically all the plug, in our own shop, and, as I say, the West American Rubber Company made the rubbers. We turned the wooden body of the plug in our own lathe. We had a man hired to put the dogs and the rubber packers and the belting or leather cups on them, and he had the material there. So all he had to do was just to make plugs.

I couldn't say how many plugs were manufactured by us of the Inskeep type. We made them just as we used them. We never had no stock on hand; probably 15 to 20 and 30 sometimes. We just made them as we used them. I guess we have on hand now half a dozen or more, maybe, or maybe a dozen. The last ones were made sometime before we quit using them. We haven't made any plugs since. (29) I couldn't say how many

(Testimony of J. M. Owen.)

plugs of all sizes we had on hand on March 3, 1924. We had no records of them. We never kept any records of any plugs that were made. We just made them as we used them. I have the makings, I guess, for a hundred of them now down there in my barn. We had these parts all made, but they were never assembled or put together, only as we used them. We used three to four dogs or slips on each one of these. We have no way to determine how many of those plugs we manufactured, only by the use of them. When we used them or sold them we had a record of it, but not before. We figured there wasn't any use of keeping a record of the number that we manufactured. They were all setting up there, all made, and the different sizes were there, and when we would get short on any size we would just make up that size. We kept a stock of them all the time. I can't say as to whether we have as many left now as we had when we were found in contempt for using them. (30) To my knowledge we have sold none of them since March, 1924, when we were found guilty of contempt by the Hon. William P. James. I don't know of my own knowledge that our records show that we sold plugs in May and June and July and August to oil companies; but I never kept the books. I did not necessarily make the sales of everything that was sold around there. There were several around there working.

Referring to the sale that was made on the 12th of June to the Fremont Oil Corporation, $15 worth of chemicals and a cement job of $50 and a plug for $22.80, I don't remember about that job. As I remember that job, that was away out in the desert somewhere, and I can't

(Testimony of J. M. Owen.)

remember just what took place there. I don't know who did the cementing. It seems that that job was a job where I sent a man, one of my men, out. He took his Ford and went out without any equipment, and they did it some way with their own equipment on the rig. I suppose we furnished the plug, if it is there. But that is (31) where it has got me puzzled. We never made a charge for a plug like that. If we just sold it out, we never mentioned the plug in a cement job.

Q Well, the same day you charged $50 for doing a cement job for the same company, and you charged $15 for chemicals and $22.80 for a plug.

A That must have gotten through there wrong in some way. It must have been for cement instead of a cementing job, or something like that, for I don't remember of ever doing such a cement job. There is times they would come in and buy plugs and chemicals and cement, and go out and do their own work, and it seems that is the kind of a job that is. But I don't remember.

Q All of these plugs that you sold, whether you did the cementing or not, you sold to be used in cementing oil wells, did you not?

A Well, I don't know as anything was ever mentioned about that. They would come in and want a plug, and we would sell them a plug. They might use it for a lot of things. They might use it on a water well or anything like that.

(37) On December 16, 1924, Mr. Bales and I sold the company or our assets to Mr. Egenhoff. As well as I remember, the Baker Casing Shoe Company paid for it, but the deal was made with Egenhoff. The Baker

(Testimony of J. L. Bales.)

Casing Shoe Company it seems gave us the check. I have the escrow papers that we can produce to show that, just how that went.

The plugs that we sold were not necessarily used in oil well cementing. (38) I think the schedules show *there* there are 13 plugs we sold where we did not do the cementing. There were very few of them, and I am sure that they were not used for cementing oil wells, because they had no equipment to cement them with.

(39) MR. WESTALL: I would ask the witness what the plugs were used for that were sold, that is, as to what other uses they could be put to. It is simply to rebut the presumption that because they were plugs they were necessarily used in the infringing process.

THE MASTER: I think you are anticipating. I will sustain the objection.

MR. WESTALL: Just note an exception.

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(44) June 12, 1928. 10 A. M.

Testimony of

J. L. BALES,

called on behalf of Plaintiff, sworn, testified as follows:

DIRECT EXAMINATION

BY MR. RICHMOND:

THE WITNESS: My name is J. L. Bales. I am one of the defendants in this case. I conducted a business in partnership with J. M. Owen, known as the Owen Oil Well Cementing Company. We were in active business from January, 1923, until March, 1924; or I think

(Testimony of J. L. Bales.)

it was from January, 1923, but I would have to go back to the books to tell exactly how long we were active. (45) I think it was to March, 1924. We are still in existence, as far as that is concerned. We never have dissolved, but we are inactive. We were served with an injunction from the U. S. Court, and I quit and Mr. Owen went in business for himself. When I said we discontinued business, I meant that we discontinued the use of this plug. That is what I had reference to. We did a little business after that, but our outfits were small. We did some business after that with a no-plug system, but after this injunction we knew we couldn't use this plug any more. Our outfits didn't seem to be heavy enough to carry on the business without it.

Referring to Exhibit 7, the charge to the Fremont Oil Corporation of $15 for sale of chemical, $50 for cementing, and $22.80 for plug, I think that is on the 12th of July. We had that up before. (46) The Fremont Oil Company were trying to dig a well up near Mojave, out on the desert, and if you go back through the records I think you will find quite a number of charges. Their driller was trying to cement it himself, and he had old casing, and I think there was a leak in this particular instance in his casing, and he was trying to locate a split in his pipe; and he bought this plug, I think, with the understanding to try to locate this leak, and he came to us and wanted to rent an outfit to go up there. We didn't rent him an outfit, but took a pump, rented him a pump, and he took the pump up there. That was the way that charge was made, to the best of my knowledge. There was a pump taken off of one of our outfits and

(Testimony of J. L. Bales.)

rented to him, and he did the work himself. It was east of Mojave, on the desert. They bought quite a bit of chemical from us. We had quite a bit of chemical on hand, and they bought quite a bit at different times. All the charges were the same date; I don't know when we got the money. (47) The gentleman came in himself and bought this stuff at our place of business. I think he made the order for all of those things at the same time. I am not positive, though, without going back to the work sheets of that day. I would have to go back to find out if he made the whole order at the same time or not. I noticed the bill is at the same time, or the same date. I don't remember whether or not we sent a cementer out there to do the work. We might have sent one out with a truck or a car with the pump. I would have to talk to Mr. Owen. I don't remember whether we did or not. If I look at the work sheet, maybe that will show. I don't think the work sheet would show that the plug was purchased for the purpose of locating a leak in the pipe. I tried to get on those work sheets all the information that would come up, so we could refer back to them.

MR. RICHMOND: Pardon me. Can you locate the work sheet for that?

MR. O. G. MILLER: No I couldn't locate the work sheets. I couldn't locate the work sheets on any of the cash sales. They were in my hands in December, 1924, but what has become of them since that time I don't know.

(48) Referring to the sale on May 6th of a plug to the Pan American Petroleum Company, that was just an

(Testimony of J. L. Bales.)

outright sale of a plug. I don't know what they used it for. You see, we had a contract with Mr. Inskeep to manufacture and sell plugs. We bought the patent and were to use the plugs, and had a right to manufacture and sell the Inskeep patent plug.

On the 29th of May, the sale of a plug to the Cooper Petroleum Company was just a sale. I have no independent memory or recollection of it. The same is true of the sale of the plug to the Pan American Petroleum Company, I have no independent recollection of it; (49) nothing only just as the records show there. I made the sale and sold the plug and billed them for it. I have no recollection what it was sold for or anything. You see, they came in and told us when they would buy those plugs that they wanted to use them to locate leaks and such as that. And you know how those things go; if they wanted a plug we sold it to them. I couldn't say that the Pan American Petroleum Company told us that on that special plug, but that is my version or my way of selling the plugs. I would ask them what they wanted with it. I asked them all, every one of them.

MR. WESTALL: If the Master please, we object to this line of questioning on the ground that the sale of plugs is not within the issues on this accounting. This is an accounting for the number of times that a certain patented method was used for cementing. The only thing that can constitute an infringement is the use of a method, and not the sale of plugs, obviously, from the reading of the claims.

THE WITNESS: (50) There were not 14 plugs sold after the injunction. We didn't sell but very few

(Testimony of J. L. Bales.)

plugs. The injunction was March 4, 1924. The item of $3.80 is not a plug. There was no plug that cheap. The one listed here for $3.80 to the Fremont Oil Corporation is just a little round piece of wood, part of a plug. We turned it on our lathe.

(51) THE MASTER: They admit in their account that they have offered in their schedules that they have sold those plugs, and probably the defendant would be willing to stipulate that they sold them to persons engaged in drilling oil wells. They appear, all of them, to have been sold to oil companies. How much further do you want to go?

MR. RICHMOND: Not very much further. I want to ask him (52) about each one of the items.

THE MASTER: All right, go ahead, and I will reserve the ruling on the objection.

THE WITNESS: Referring to the charge on May 20th to the California Drilling Company for the sale of a plug of $28.50, I don't remember exactly the sale. If it is on there I made it. I made it in the office. I generally made a charge slip when the sale was made and had them sign it, or a work sheet. It was a slip. Then I took the slip and made my billing from that, from this work sheet. You will find an invoice in the files for that plug. You say the California Drilling Company? Here it is, May 20th, $33.25, less the discounts. Those work sheets were in a box and I took them to Mr. Miller, the auditor. (53) I don't know as that worksheet would show what use they were put to, only it would show that the California Drilling Company had bought this plug and signed for it. Whoever took it away from the barn

(Testimony of J. L. Bales.)

signed for it. I don't remember who was in charge of the California Drilling Company at that time, and I don't remember who it was in the company that purchased that plug. You see, I wasn't in the field much, I did the office work, and I wasn't familiar with the outside work.

On March 23, 1924, there appears on Exhibit 7 an item of the sale of a plug, of $28.50, to the California Drilling Company. I have no independent recollection of that bill. The California Drilling Company were engaged in the business of drilling oil wells. I am acquainted with the company; we did quite a bit of cementing for them.

On the 7th day of July there appears an item or charge of $19 for the sale of a plug to the Bartholomew Oil Company. (54) I remember that we sold them a plug. We did one well for them on December 17, 1923.

Q On the same date there appears to be a sale to the Fremont Oil Corporation for chemical, $12.50, and for a plug, $19. Do you remember that sale?

A I have them charged with $31.50, and $6.30 on the 7th and 17th. The 17th is $6.30. The 7th is $31.50.

Q Of which $12.50 was for the sale of chemical, was it not?

A Well, they bought quite a bit of chemical. The book just shows a charge here of $31.50. It is not segregated on the ledger, $12.50 for the sale of chemical and $19 for the sale of a plug. Just the total is here. I would have to go back to the journal for that. (55) I don't remember anything about that sale. You see, they bought quite a bit of chemicals and cement and stuff.

On the 17th of July to the same company there appears on the same statement a charge of $2.50 for chem-

(Testimony of J. L. Bales.)

ical and $3.80 for a plug. Those charges are reflected in our ledger, a total $6.30. There is no segregation showing what part of it is for a plug and what part of it for chemical; it wouldn't show in the ledger in that way.

Q This Fremont Oil Corporation, to which these last two charges, on the 7th and 17th of July, were made, is the same company to which the sale was made on the 12th day of June, of $25 for chemical, $50 for cementing, and $22.80 for a plug, is that correct?

A The total in the book is $87.80, in the ledger, and I don't remember if that included plugs, without going back to the journal or to the invoices and finding out what it is for. If it totals $87.50 to the Fremont Oil Company, it is the same company. (56) That is the only Fremont Oil Company we had. All of these entries are against the same company. But to thresh them out I would have to go back through the journal and my invoices to get each item separate.

All of these corporations to whom we sold plugs were either contractors engaged in the business of drilling oil wells or wells and companies that were engaged in producing oil.

I have produced here documents that would show the number of plugs that were manufactured and sold by the defendant.

MR. WESTALL: Did I understand that the Master had reserved the ruling upon my objection, and is it understood that this objection heretofore made applies to all of this evidence.

(57) THE MASTER: I am reserving the ruling on it.

(Testimony of J. L. Bales.)

THE WITNESS: These are the records that were referred to the other day, showing the accounting made to the Inskeep people, showing the number of plugs we manufactured and sold. And in there is a complete record. It shows the number of plugs that were used for each month. I think it will show both the plugs that we sold and the plugs that we used in our own work. You see, we didn't get to making plugs for quite a bit after we bought the right. This shows them here. This shows the plugs manufactured. (58) This shows the plugs that we used and also the plugs that we sold. This is our own account that we rendered to the Inskeep people, in accounting to them for royalties.

THE MASTER: We can't tell until we go into it whether it is of any use as evidence or not; but I don't see that there can be any objection to allowing the plaintiff to examine Mr. Bales as to this account for the purpose of verifying items that are on the account that you have (59) offered here. The objection will be overruled.

MR. WESTALL: An exception.

THE MASTER: The question that has been raised, as to whether there is an accountability on the part of the defendant either as to profits or damages in the sale of plugs where there was no work done or no use of the process in question, is a question that probably will take more careful consideration than I can give it now; and if the reserving of the ruling on that particular point will not involve the taking of a large amount of testimony that is questionable, I would rather reserve the ruling and hear you fully on it, and determine it probably at the close of the hearing.

(Testimony of J. L. Bales.)

Q BY MR. RICHMOND: Mr. Bales, when did you first start the use of the Inskeep plug in the cementing of oil wells? And by "you" I mean you and the defendant Owen.

A I think that is the first report that I made to Mr. Inskeep, right there for June, 1923. If I am not mistaken, this is the report right here that I made on his royalty basis. This is the Wigle-McBride plugs that we bought. Prior to June, 1923, the firm of Owen Oil Well Cementing Company was using the Wigle and McBride or the Wigle plug. When we began to use the Inskeep plug we had quite a few of the Wigle plugs on hand, and Mr. Wigle agreed to take them back and give us credit. Now, I don't see any record—there should be a record of returned plugs. So that record there would not be complete of the number of plugs we returned. To the best of my memory we returned quite a bunch, excepting one. We had one big wooden plug that I think we have on hand yet. That is an invoice from Tom Merrill and Wigle & McBride for plugs that we had purchased. The statements I have presented here show the number of plugs that were purchased from Wigle or from other people who made the Wigle plug, but they don't show the number that we returned to Wigle out of these. I don't believe we have any account in our ledger or anything that would show how many plugs we returned to Wigle. It seems to be that the invoices or statements we have presented here, and which I have just handed you, are all the invoices that we received from Wigle & McBride and other people for the furnishing to us or our firm of Wigle plugs. I haven't gone through the records since I turned

(Testimony of J. L. Bales.)

them over to the auditor, though, but they seem to be all there. While we were using the Wigle plug I don't think we sold any Wigle plugs to any contractors or oil companies where we didn't do the cementing. I don't remember of any being sold. I think there must be a Tom Merrill plug on hand now.

Q Do these other reports from the Owen Oil Well Cementing Company, addressed to M. E. Inskeep, which I now show you, show all of the plugs, Inskeep plugs, that you had manufactured for you or manufactured for yourself and the companies for which these plugs were used, prior to the 4th day of March, 1924?

A Well, we have reports in here beyond that for June 10, 1924, and July 10, 1924. Those reports were made from invoices or from work sheets for plugs sold by us and manufactured by us. There is a little notation on the bottom there of four plugs used in one well, where they had a split pipe and they did the work themselves.

Q When did the Owen Oil Well Cementing Company commence to manufacture the Inskeep plug themselves and not buy it from someone else?

A I think it was along about the first report here, about June 1st, if I am not mistaken, that I began to make the reports. Mr. Inskeep was around our place quite often, and I might have just paid him without a report of this kind. But after we got to manufacturing the plugs, I made a report every month, and this seems to be the first report for June. Before we started manufacturing and selling them ourselves we did not have them made by somebody else, the Inskeep plug; we bought machines and made them ourselves. It took us quite a while.

(Testimony of J. L. Bales.)

It was a crude outfit and it took us quite a while to get it down perfect. We had to figure out a way to make them and get the little dogs manufactured, and castings. These reports of the Owen Oil Well Cementing Company to M. E. Inskeep, dated July 1, 1923, until August 1, 1924, are copies of the reports rendered monthly to M. E. Inskeep, showing the number of plugs manufactured and the number of plugs used, and by what companies they were used, and the location and number of the well; they show the number of plugs manufactured, sold and used, as near a complete report as I could get from my records. You see, we never counted these Inskeep plugs as manufactured until they were completely set up. There must be a hundred or two unfinished, that are sawed out and ready, on hand now. I don't know. We never counted a plug on that report as manufactured until it was all nailed and bolted together, and we had a wagonload or more of unfinished material, all ready cut in shape. I really couldn't tell you whether or not we have manufactured any since the month of July, 1924, when we report that we manufactured one. I haven't seen the outfit in months. Mr. Owen has it stored in his barn, and I don't know. I haven't been in the barn in a year. But to my knowledge, or as far as my knowledge runs, we have not completed any since the date shown in this last statement. I really don't know how many of these plugs that we have are finished, that is, not parts but assembled, at the present time. I really don't know whether we have any or not. You see, Mr. Owen has them in his barn, and I haven't been in his place of business in a year.

(Testimony of O. G. Miller.)

(Reports relative to the Inskeep plugs received in evidence and designated as Plaintiff's Exhibit 2, subject to the general objection heretofore made by Mr. Westall.)

(Invoices of plugs bought from Wigle and Merrill marked and received in evidence as Plaintiff's Exhibit 3, subject to Mr. Westall's general objection as heretofore stated.)

Testimony of

O. G. MILLER,

recalled on behalf of Plaintiff, testified as follows on *d*urther

DIRECT EXAMINATION:

Referring to the last three pages of my Exhibit 7, the charges for the sale of plugs were made up by me from the cash book. I might add further that all cementing jobs that had plugs, or that were used with plugs, there is an invoice covering. However, on the plugs themselves there is no invoice there, no cash invoice, showing that. However, in 1924 I sent out an auditor's statement on all plugs for cementing jobs, regardless of whether they were paid or not, for a complete verification; and at that time the cash sales were in my possession and separate. But the last time that I came into the office they were not there. Where they are now I can't say, but the cash records themselves were taken from the cash book. The cash book is here, and I now produce it.

Referring to June 12th I find Fremont Oil Corporation, cementing $50, chemical $15, plug $22.80, making a total

(Testimony of O. G. Miller.)

of $87.80. I believe that is true of all these other cases where plugs were sold. I don't think there is an original invoice in there, to my knowledge; I don't remember of having one. This audit or statement prepared by me and filed by the defendant herein is a statement that is not made up from original records with the exception of the cash sales, and they were taken from the original records on the cash book.

I am acquainted with the system of bookkeeping as pursued by the defendants before I audited their books. The entries in the cash book are made direct from the checks, from the billing, from the invoices of purchases, and from cash receipts. The cash book as kept by the defendants is a book of original entry so far as books themselves are concerned. That is true of their ledger.

Q But the books were not made, or are not the original entries that were made, in the transactions or the carrying on of the business of the defendants?

THE MASTER: You are asking him to draw a conclusion. He states the cash sales were put down on slips and from those entered in that book. Isn't that correct?

A Correct.

THE MASTER: Then I can draw the conclusion as well as the witness can.

THE WITNESS: With the exceptions of the cash sales for plugs I did not have the original documents or charges from which to make up this audit. I am sure of that. The charge of Lyon & Lyon of seven or eight hundred dollars I did not get from the cash book. I said specifically in my audit that that was given to me by Mr. Owen since the company went out of existence. I have no

(Testimony of O. G. Miller.)

more exceptions I wish to make, unless so stated in the audit. Mr. Owen told me that that payment to Lyon & Lyon was for legal expense; he did not tell me what legal expense, only in connection with this suit. He might have told me it was for the costs in the trial of the suit. I can't recall that. That has been quite a while ago. I saw the cancelled check at home. I haven't that check here; that is in his records, and was taken from his records. There is nothing else that was taken from Mr. Owen's records unless it so states in the audit.

Since the last meeting I have checked the original invoices or work sheets for cementing done against the royalty report as rendered to Inskeep. I did not do so before that. I checked against the original records. I checked the original invoices or work sheets for cementing done against the plugs that were bought from Wigle & McBride. I did that since the last hearing.

Referring to Plaintiff's Exhibits 2 and 3, the original invoices covering the Merrill plugs and Wigle & McBride plugs were entered in the accounts payable, and I have handled those previously. However, the Inskeep reports were at one time handled by me, but not of late. In other words, in verification of the amounts as paid Inskeep they were tendered to me, but not to check the plugs. Referring to Plaintiff's Exhibit 2, I saw those at the time they were first made up, in verifying Inskeep's check, at the time that they were made up. That is the first time I had ever seen them, and that was right at the time. I think the next time I saw them before today was one day last week. So far as I know, those are all of the reports among the books and documents of the defendants, those that are produced here, and they check with my records.

(Testimony of J. M. Owen.)

Q And what about Plaintiff's Exhibit 3; are those all the invoices that are among the books and documents of the defendants for Wigle plugs?

A No; I believe there is a credit memorandum there covering some returns, if I am not mistaken. I wouldn't say it was all, but what there is here checks with my original records. There was possibly some returned, or they may have some on hand. As an illustration, on April 23, 1923, there is two 12½ Wigle cement plugs shown on an invoice here, that I don't see where they have been used on my original records. It is possible they have been returned. There is also a credit memorandum here covering the two 12½-inch cement plugs, two 8¼-inch plugs, and one 10-inch plug, the credit memoradum that was spoken of some time ago. In 1924 I had in my possession all of these original invoices or work sheets which are set out, from which the cash book was posted. I have no recollection as to what those work sheets showed on their face, as to what purpose the plugs that were sold were to be used for. They did not show for what purpose they were to be used, to my recollection.

June 13, 1928. 10 A. M.

Testimony of

J. M. OWEN,

recalled on behalf of Plaintiff, testified as follows on

DIRECT EXAMINATION:

Referring to the audit or statement furnished by the defendant, and to Exhibit 4, under "Disbursed by J. M. Owen, on February 26, 1928, Lyon & Lyon, $708.31,"

(Testimony of J. M. Owen.)

that was costs in the suit, in the case or something, I don't know; I don't remember. It was some kind of costs though. I paid it in the office of Lyon & Lyon when I was present there with my attorney, Mr. Westall. That was for the costs as fixed by the District Court of Appeals in this suit, of which this is an accounting.

Testimony of

J. M. OWEN,

called as a witness in his own behalf, testified as follows on

DIRECT EXAMINATION

by Mr. Westall:

Q Mr. Owen, do you consider, assuming that the patent in suit, of course, is valid, which has been decided by the Court, and entitled to the scope that has been given to it, which, of course, we must assume, that $50 a well was a reasonable royalty for the use of the Perkins process as described in Claim 2 of the Perkins patent?

A No, sir.

THE WITNESS: I have had about seven years experience in oil well cementing in California. In 1921 I worked for Wigle & McBride in cementing oil wells, in 1921 and 1922; and in 1923 Mr. Bales and I went in business. When I worked for Wigle & McBride I cemented oil wells practically the same as I am doing now and have done for myself. I expect I could come pretty close by saying that it would amount to a thousand jobs that I have actually had experience with in cementing. I have used what they call the plug method and no-plug method,

(Testimony of J. M. Owen.)

the dump bailer method and the tubing method. I believe that is all.

I am familiar with the prices that were charged for cementing oil wells during the time I have referred to. The price of cementing oil wells generally has been $250. There was $250 charged for all the methods of cementing, as far as I know; that included the no-plug method as well as the plug method. When I refer to the no-plug method I refer to a method in which the cement is pumped and placed behind the casing and through the casing without the use of plugs.

During the time I was in partnership with Mr. Bales, and particularly the time covered by this audit which is before me, I cemented wells by this no-plug method, and I received $250 for cementing by the no-plug method as well as I did by the plug method.

I am familiar with the operations of other oil well cementers in the use of the no-plug process.

Q What other company operating in California here to your knowledge has used the no-plug method of cementing?

A Well, the Rotary Oil Well Cementing Company. They don't use any plugs. They use a no-plug system. And there is Castle & Bain down there don't use plugs.

Q Can you explain why some of these companies do not use plugs in oil well cementing?

MR. RICHMOND: That is objected to as calling for hearsay testimony.

THE MASTER: Overruled.

A Well, the biggest objection that I have ever heard to it is you have to take your head off to put that plug in.

(Testimony of J. M. Owen.)

After you break circulation and pump your cement in, you have to take that head off to put your plug in, and they don't like that on account of getting so much air in the casing, and they would rather take a chance on measuring the fluid on top of the cement and leaving the plug out. In using the no-plug method of cementing we determine when the cement has reached a proper place outside of the casing by measuring the casing and figuring up the amount of fluid you pump on top of the cement. We measure when we use the tubing method of cementing. I never heard of or never saw any wells cemented until I came to California in 1921, and since that time the measuring of fluid in to displace the cement in the casing has been used all the time, and I have been right with it all the time.

The problem in cementing is to determine when the cement has been forced out of the casing and up in the formation on the outside. The problem is to determine when the cement is all or practically all out of the casing. We endeavor in cementing to get practically all of the cement out. We drill through the plug. We try to leave about 20 feet inside of the pipe, and the rest of it all on the outside, up between the casing and the wall of the hole. The distance we cement up depends on the formation of the well and the amount of cement we use and the size of the hole. The ideal way to do it would be to leave about 20 feet. We want to get a seal here at the shoe at the bottom. The idea of leaving the 20 feet in there is that always the top of the cement is more or less mixed with water and is too thin, and it is sloppy like, and it doesn't set hard, and if you leave about 20, 30 or 40

(Testimony of J. M. Owen.)

and sometimes 50 or 60 feet in there, it assures you that there is good hard cement around the shoe. The contaminated cement would be in the top several feet in the casing. Then that is drilled out and we go on down through our plug.

In the use of the plug system a long spacer is occasionally used. They always have to put something in there. They used to use a 4 by 4 or something about 20 feet long, and they would throw in the pipe, and the bottom of that would hit the ground or hit the bottom of the hole, and then the plug would hit that, to assure you or to indicate that all of the cement wasn't pumped out, and in that case we would have cement the length of this spacer, maybe 20 feet long, in the bottom of the hole. That cement in the bottom of the casing is very valuable. If it was all pumped out you wouldn't get no job. That assures you that the cement is all around the bottom where you want it, if you have got some left inside, the same as when you don't use plugs; there is no difference.

Q Why do they use this long spacer so as to have say 20 feet of cement in the bottom of the casing when they use the plug system? Would not the plug prevent all of the cement from being pumped outside of the casing?

MR. RICHMOND: I object to that as calling for the conclusion of the witness; and furthermore it is leading and suggestive.

THE MASTER: The witness can state his opinion of the purpose of that. The question is a little bit leading, but I will let him answer it.

A If they didn't put something in there to stop the plug they would pump it right outside of the casing, and

(Testimony of J. M. Owen.)

you would just keep pumping, and also pump your cement out on top of the ground. If you have got circulation around it, there has to be something put in there to stop that plug, to keep it from getting out of the pipe.

As to the advisability of having cement in the bottom of the casing, I can't see any difference in the no-plug method and the plug method. If you don't use any plugs you have got to measure your fluid, and we have measuring tanks and equipment that it can be measured very accurately by. And even the Perkins outfit themselves measure the fluid on lots of jobs where they run their plug.

Q Why does the Perkins system, or anyone using the plug, find it advisable or necessary to measure in their fluid to displace the cement?

MR. RICHMOND: I object to that as leading and suggestive, immaterial and irrelevant.

THE MASTER: Overruled.

A Well, many times I have found it, when I was running the plug myself, that the plug didn't work. It didn't amount to anything as far as stopping your pump, and if you measure your fluid you know about where it is anyway, and you can quit before you pump all of your cement out of the pipe.

As to determining the amount of displacing fluid that goes into the casing, that is, measuring it, we have books with all of those decimals on them figured out, of all sizes of casing, and for tanks or anything you might want to use. It is very simple. As far as figuring what a string of casing would hold or a tank, it is very simple and any kid in the third grade could figure it with the decimals we

(Testimony of J. M. Owen.)

have for that purpose, with the tables that we have. They have had those tables for measuring the displacing of fluid in casings ever since I have been in the business, seven or eight years.

There are not any advantages in the use of the plug system over the no-plug system to which I have referred. I can't say that I have received any pecuniary value or profit or advantage by the use of the plug method over the no-plug method.

Q What do you consider would be a reasonable royalty, assuming that the Perkins patent, of course, is valid, as found by the Court, which must be assumed, and assuming the scope that has been given to it, for the use of the plug method of cementing as defined in the Perkins claim in suit?

MR. RICHMOND: I object to that on the ground that the witness has not been qualified to testify; furthermore, that the proper foundation has not been laid, and that it calls for a self-serving declaration.

THE MASTER: Overruled.

MR. RICHMOND: An exception.

A Well, I don't hardly know how to answer that question. I know I didn't make any money by the use of it while I was using it.

MR. RICHMOND: I move that the answer be stricken out as not responsive.

THE MASTER: That may be stricken.

THE WITNESS: I do not feel that I am qualified to give my opinion as to what a reasonable royalty would be in answer to the question as framed by Mr. Westall.

(Testimony of J. M. Owen.)

From the fact that I made no profit or advantage in the use of the plug process over the no-plug process, I would not consider that it would be just to pay any royalty to Perkins for the use of that process.

Q BY MR. WESTALL: Can you give any basis, from your knowledge and experience, for estimating any amount to be paid to Perkins as a reasonable royalty for the use of the Perkins process?

MR. RICHMOND: The same objection as first urged: the witness is not qualified, and, furthermore, the witness has upheld my objection that he is not qualified.

THE MASTER: The objection will be overruled.

A Well, I would think $15 or $20 a well would be thousands to pay if you paid any at all. The fact that the Perkins method has been advertised and is known, and by reason of its being talked a great deal, would have an influence upon me in figuring a minimum or figuring $15 or $20, and not the intrinsic value of the method over the no-plug method. I figure there is no value by using the plug only. It is just advertised and has been used a long time, and you have got to educate them to something else, which they are being done, or it is being done very fast now. There is a lot of wells being cemented, more every month, in the State of California, with no plugs. It is increasing every month. That is, with no barriers whatever to prevent the fluid from mixing with the cement. That use is increasing all the time. So that this royalty that I fix of $15 or $20 is only a concession to prejudice in some quarters in favor of the plug by reason of its advertising.

(Testimony of J. M. Owen.)

On

CROSS EXAMINATION

by Mr. Richmond the witness testified:

Q Mr. Owen, do you mean to testify that you are collecting $250 for every well that you cement today by the no-plug process?

A I don't remember as to testifying about that as to every well that was cemented today, but all wells that Mr. Bales and I cemented were for $250, as well as I remember. That was before the injunction where we were found guilty of contempt in this case. It is not a fact that today I am cementing wells for from $100 to $150 and $200 per well with the no-plug system. I am getting the same price for cementing oil wells today as the Perkins Oil Well Company, and that is $200 and $250. Part of the wells I cement is $200 and part of them $250. Where I get $250 it is for a very deep water string. Offhand I do not know of any wells that are being cemented by the use of a plug where the price is less than $250. I don't know of any. Since this suit was brought I have not tried to get a license from the Perkins Oil Well Cementing Company.

Q You never consulted the Perkins Oil Well Cementing Company or any of their attorneys or representatives concerning the obtaining of a license under the Perkins patent?

A Well, I was in Lyon & Lyon's office once or twice in regard to the settling of that suit, which I was called in there by them in some way. I don't remember just how I come in there, but there was something said about settling that suit when I met Mr. Perkins and Mr. Whitney and all of them in there. And if I said anything about a

(Testimony of J. M. Owen.)

license to use the Perkins plug at that time, I don't remember it. I never had my attorneys, the firm of Burke, Camarillo & Herron, take the matter up for me regarding the obtaining of a license under the Perkins patent, that I have any recollection of at all. I don't remember that I ever did.

We give our bills two per cent discount for payment in cash or within thirty days. During the time that we were using a plug we charged $250 on every well where we used a plug. Everybody was charging that price at that time, and since that time it has been cut, the price has been cut, and it looks like you can get a well cemented for anything without the plug. I understand the price with the plug has been cut too. I hear it has, but I don't know.

THE WITNESS: January 26, 1923, is the first well we cemented using a plug, and the last well we cemented using a plug was the Carl No. 2 of the Keefe-Resdin Oil Company, on March 6, 1924. We didn't cement, to my knowledge, any wells using a plug for less than $250, or without the plug either. They were all the same price.

Q BY MR. RICHMOND: During the time, according to Exhibit 7, up until you were found guilty of contempt in March, 1924, you cemented 321 wells by the plug process, or the Perkins process, which has been held to be an infringement, and during the same time you cemented approximately 50 wells by the no-plug process; is that correct?

A I don't see but 43 on that report. According to the report we cemented 43 by the no-plug process. I don't know that there was any advantage during that time in

(Testimony of J. M. Owen.)

the use of the plug process, the Perkins patented process, over the no-plug process, but all the companies had just been using that, as far as I know, and they demanded that, and we wouldn't have gotton the cementing at that time if we hadn't used that plug. I wouldn't say there are any advantages in the use of the no-plug process at the present time that were not known on March 4, 1924, only they are just getting more educated to it at present is all.

Referring to Exhibit 7 of the report, the first page, the first item of January 26, 1923, is the York-Smullen Drilling Company, no-plug cementing, $125. That is the first well we cemented. I think I gave him that job, or agreed to, and he gave me $125. As well as I remember, that is the way that happened.

Q In any event you didn't get but $125 for that job, did you?

A It don't show it here. I don't question the accuracy of the statement. We received only $125 for that no-plug job.

Q Referring to the item in the same exhibit, of date September 9th, the Federal Drilling Company on Garner No. 1 well, there is another no-plug job and you only received $100 for that, didn't you?

A That job was where we went over to Santa Fe Springs and where they had brought a big well in and was about to blow their casing out of the hole, and they had a leak around the top of the casing, and we went over there and pumped about 500 sacks of cement in there—

Q Don't say that. Look and see what it says there. It says that you used 56 sacks.

(Testimony of J. M. Owen.)

A Well, that is what the job was. There should be another one on that too.

Q. Then the statement is wrong, is it?

A. We put two jobs like that on that, to hold that casing in there, and pumped that cellar full of cement. The statement says we used 10 pounds of chemical and cemented 12½-inch pipe.

Q Then on October 1, 1923, for the Federal Drilling Company, 175 sacks of cement, 40 pounds of chemical, 12½-inch casing, $100. That is another no-plug cementing job you only charged $100 for, isn't it?

A Unless I could see the work sheet on that I would say they are not cement jobs. That is where we filled up casing there, or the sump hole, or I mean the conductor box, as well as I remember, for there were two or three jobs done on that well.

On the 13th of January, for Pugh-Miller Drilling Company, the Pantages No. 1, 25 sacks of cement and we used a dump bailer, we charged $200 for that.

On March 2nd, John H. McNeece, No. 1, 25 sacks of cement, no-plug, cemented through drill pipe, and we charged $200.

Q Then when you told the Master that you charged $250 for your no-plug jobs, the same as you did for the plug, during that time, you were not correct, were you?

A Well, I don't call either one of these three here cement jobs. This here McNeece job on March 2, 1924, was a drill pipe job, and I gave a lot of this away, just pumping cement through a drill pipe to the bottom to cement off a fish or some tools they might lose in the hole. And those two here of the Federal Drilling Company was

(Testimony of J. M. Owen.)

just what they say on the face of them here; there was a leak around the collar of the casing, and they brought the well in, and it was just about to blow their casing out of the hole. So we did two jobs on that, and charged them $100 apiece for that. During this period of time where we didn't use a plug, in most cases it was for repair jobs, and we couldn't use the casing or plug in putting the cement there. We were not furnishing at that time what is known or what I have been describing to the Master as the no-plug system; we were using the plug on all wells we could.

Q And when you did any cementing and didn't use a plug it was because you couldn't get a return or couldn't establish circulation; is that correct?

A No. That was correct about the cementing for the Federal Drilling Company. That was on top of the hole. There was no pipe there. It was just a big cellar 10 or 12 feet square, just a hole in the ground, and we were filling up around this casing.

Q Wasn't the same thing true of the McNeece job, where you pumped the cement through the drill pipe?

A We had circulation there. We used a tight head on top. They just cemented a fish or something. I don't see the work sheet on it, but I remember the job. They had lost some tools in there, or something, and we just pumped down some cement through the drill pipe and pulled out of it and left it there. It was not possible to use a plug in that drill pipe. It was not possible to put the cement in the bottom of the hole around that fish by the use of a plug through the casing.

I would not say that these no-plug jobs that we did from the time we started business up until March 4, 1924,

(Testimony of J. M. Owen.)

all of these no-plug jobs, were where we couldn't use a plug. You take most of those tubing jobs, the way I see it, and they generally always pull the tubing out of the hole where there would be no need of using a plug, and the plug wouldn't be of any advantage to you in that little pipe for you wouldn't leave it in there. You would pull it out. I do not know of anyone, since I have been cementing wells, that put in tubing in a well to cement it where they have free circulation and where a plug can be used. My testimony is on these wells that I cemented where I used no plugs they were either dump-bailer jobs or drill pipe jobs or tubing jobs. At the time between the time I started in January of 1923, up until the 4th day of March, 1924, I was not using at any time the no-plug system that I am using today. When I testified before the Master here that the Perkins patented process of cementing wells by the use of plugs or barriers had no advantage over that of the no-plug process, I was testifying from my experience gained since the 4th day of March, 1924.

Q You testified on direct examination that you were acquainted with the processes or methods known as the dump bailer and the tubing method. Has the Perkins patented process of cementing with plugs any advantage over those two methods, in your opinion?

A It is just according to what kind of a job you were going to do. You can't use a plug on one of those, and if you are going to cement a string of casing your plug is the best. It would be impossible to go out into the field of cementing today and use the dump-bailer method and the tubing method and compete with companies using the plug method of cementing. That being so, the Perkins

(Testimony of J. M. Owen.)

plug or cementing method is a great advantage over those two methods.

On

REDIRECT EXAMINATION

the witness testified:

I had a license under the Inskeep patent to use the Inskeep patented plug during all the time of the accounting period, and still have. In using the plugs that I mentioned in the audit, that I have referred to, and in all the jobs in which plugs were used, I used the Inskeep plug, with the exception of a few when we first started, before we got the Inskeep patent.

Q Was your selection of the use of a plug on any of these jobs caused by the fact that you had this license under the Inskeep patent?

MR. RICHMOND: I object to that as calling for the conclusion of the witness and a mere guess on his part.

THE MASTER: Overruled.

MR. RICHMOND: An exception.

A We had to use it for we had bought it and were paying royalty on it, and we had a contract. So that we had to use it wherever possible.

Q Were there any advantages in the use of this special Inskeep plug over the plug of the Perkins patent?

MR. RICHMOND: That is objected to as incompetent, irrelevant, and immaterial, and not responsive to any issues in this matter.

THE MASTER: Overruled.

MR. RICHMOND: An exception.

A Yes. I considered it a lot of advantage over the Perkins plug, because the Inskeep plug was a packer plug.

(Testimony of J. M. Owen.)

It had dogs on the side of it so that you could pump it down the pipe, and if you had any trouble or anything when you were pumping it down, the pressure being so great on the outside and it would stop your pump, that plug would hold the fluid and would not let the cement flow back into the casing. The dogs would permit it to go down and would wedge outwardly, and the plug would not rise in case the pressure was taken off of the top. And then when you pumped it to bottom, say for instance you used 300 sacks of cement and pumped that plug to bottom, the weight would be greater on the outside than it was on the inside, and that plug would hold the cement on the outside so it couldn't come back in, and you could take your circulating head off, and I could take it with me, which saved me thousands of dollars at the time.

Q Did it save any time in the cementing operation or in waiting for the cement to harden after the cementing operation?

MR. RICHMOND: If the Court please, may it be understood that my objection goes to all of this testimony?

THE MASTER: Yes; and the same ruling.

A. There was a good many of the operators I have talked to that thought so much of it that they said it saved them sometimes two days of time by taking that head off. You see, they have two or three days work around the rig getting ready to drill out the cement while the cement is setting, and by taking the head right off they would take and burn off the top of that casing down to the derrick floor and break down their drill pipe that they had in the rig, and make up the other string that will go inside of

(Testimony of J. M. Owen.)

the string of casing they set, and cement it, and they don't lose any time that way at all, and it is a great advantage.

Q In the use of the Perkins plug, please state what had to be done after the cement was pumped out of the casing.

MR. RICHMOND: I object to that as incompetent, irrelevant and immaterial. The witness has not testified that he knows what would happen or was familiar with the Perkins process or the plugs used by Perkins.

THE WITNESS: I am familiar with the Perkins process. I have seen a lot of wells cemented with the Perkins process.

THE MASTER: All right, he may answer.

A Well, they have got to leave their head on that pipe with their plug to keep that cement outside of the casing until it hardens. Otherwise it would flow right back into the pipe. That is where I had a good business with this plug. I was getting more and more, more than I could take care of, all the time. It was just on account of the plug, as the plug was so far ahead of the Perkins plug in all the operators' eyes that they wanted me to cement their wells. I would turn work away from the door. I didn't have money enough to get equipment to take care of the business I had with that plug, and it looks like it would be worse than that when the plug runs out to where I can use it.

Q You have heretofore stated that there wasn't any particular advantage in the use of the plug over the no-plug method of cementing. In so testifying were you referring to a special plug like the Inskeep plug or one like is shown in the Perkins patent in suit?

(Testimony of J. M. Owen.)

A I was referring to what I call a block of wood. That is all it is, the Perkins plug. It is no packer plug. Of course, I think with the packer plug I was using there is a lot of difference. As to why I didn't use the plugs on the tubing jobs that have been referred to in my cross-examination, the tubing was only used when they missed a cement job on their casing, and they didn't leave it in there, and they pumped a small amount, probably 10 or 15 sacks, through the tubing, and pulled the tubing up over it and put pressure on it, and you had no circulation around the casing, and it pushed the cement out in the formation around the casing. I could have used a plug on those jobs of cementing, but it would be no advantage. There was an advantage in using the tubing on those particular jobs; that is the only way you could cement it.

In making a comparison of the plug method with the tubing method, and in stating that the plug method had advantages over the tubing method, I did not consider those jobs in which it was necessary or advisable to use tubing; I was only making a comparison of the system generally in the large run of cases. The same is true of the dump bailer method.

Q You have spoken of one of the companies that was in the field cementing by the no-plug method during the accounting period which you have spoken of, when you were using the Inskeep plug. What company was that?

MR. RICHMOND: That is objected to as incompetent, irrelevant and immaterial.

THE MASTER: Overruled.

A That was the Hamer Oil Well Cementing Company. I don't know approximately how much business

(Testimony of J. M. Owen.)

the Hamer Oil Well Cementing Company did. They seemed to be very busy. They had three or four outfits. They were operating at Long Beach. With three outfits they could cement fifty or sixty wells a month. I couldn't say as to whether they were busy all the time. I know I saw them out in the field very often when I was out. I couldn't say how busy they were. They were not cementing special jobs, but were doing regular oil well cementing through the casing; they were doing all the cementing, all sized casings. They were cementing oil wells in which I would have used the Inskeep plug if I had had the job, or Perkins would have used his plug on. According to my information they had good success.

MR. RICHMOND: I object to him testifying from information. I object to the whole line as irrelevant and immaterial.

THE MASTER: You had better develop the source of his information or his belief or what knowledge he has of it.

Q Do you have any knowledge as to the success or non-success of the Hamer Oil Well Cementing Company in the use of this no-plug method of cementing on wells on which you normally would have used a plug?

A Well, I know that they had several big companies that I would have liked to have had, and when I would go after their business they would say, "Well, we are satisfied with what we are getting and the success we are having, and we have no intention of changing." So that is all I know about it.

MR. RICHMOND: I object to that and move the answer be stricken as a conclusion, and not based on knowledge at all.

(Testimony of J. M. Owen.)

THE MASTER: The conclusion that the witness reaches there is probably not proper to stay in. That may go out.

THE WITNESS: I couldn't say just now what companies the Hamer Oil Well Cementing Company was doing work for, that is, the ones I referred to that I would have liked to have gotten, as it has been so long ago. They had one I know, which was the Parkford Oil Company at Santa Fe Springs, which was a good one, that I know I tried to get, and then they cemented some wells for the Wilshire Oil Company. At the time I approached those companies for their business as a competitor of the Hamer Oil Company I explained the advantages, as I saw them, of the use of the Inskeep plug. The Hamer Company continued in business as a competitor of ours during the entire accounting period that I was in business with Mr. Bales.

Q And continued all during this time to cement wells, to your knowledge, in which you would have used the Inskeep plug if you had been free to do so?

A Well, they have changed the name of that now. It is the Rotary Oil Well Cementing Company now, and has been for the last two years.

Yesterday I referred to the sale of plugs. Those companies bought those plugs mostly to find holes in casing. If they had a hole in their casing they could pump that plug down below this hole and it would stay there. As far as using them for cementing oil wells, I don't think they could do it, because they have no equipment to do with, and I know if they were to come there to buy a plug to cement a well they would not get it. In one instance

(Testimony of J. M. Owen.)

I know we sold a plug to a company up there, and come to find out the Perkins Oil Well Cementing Company put it in evidence up here in the Federal Court. That is the way they would get away, because we would have no right to know where the plugs went if they bought them. I know in one instance for Sheridan Bales of the Signal Syndicate Oil Company we used four of them on his one well in finding a hole in the casing. In most cases, when they have a hole in their casing, they generally have got circulation around it, and they put that plug in there and pump it down to the hole. And, you see, the plug will go down to a hole in the casing and then won't go any farther; and then you run in with your sand line or something and measure to see where that plug is, and then you pull your sand line back out of there and put your pump on it and pump fluid in again, and then go back with your sand line, and if the plug has not moved you know you have found your hole. So that the use of the plug was only to locate the hole in the casing. The companies to whom we sold those plugs were not in the oil well cementing business.

On

RECROSS EXAMINATION

the witness testified:

When we sold a plug and chemical to an oil company we did not necessarily expect them to use the plug and chemical in the cementing of an oil well. At times there was lots of things they could use that plug for, and use the chemical and cement. They could find a hole in their casing and take a dump-bailer and cement and chemical and cement it up.

(Testimony of J. M. Owen.)

Q And when you charged them $50 too for cementing on the same day, I suppose that you were not cementing an oil well with that plug, were you?

A I don't know nothing about that job that you are referring to.

Q How much money have you spent in order to get the right to use this plug, in litigation in this suit before the Master?

MR. WESTALL: We object to the question on the ground it is indefinite, and it is incompetent, irrelevant, and immaterial and not an issue before the Court.

THE MASTER: I think the question is improper. The objection will be sustained.

Q Referring to the third page of your report or audit, which is on file here, I notice, under the heading of Profit and Loss, December 21, 1922, to April 15, 1927, there are two items: "Legal Expenses, Westall & Wallace, $2442.80," and "Legal Expenses, Mortgage, Westall & Wallace, $2617.68." What were those legal expenses for?

MR. WESTALL: We object to that as irrelevant and immaterial to any issue before the court.

THE MASTER: I think it is very evident you are going into it to show that he spent considerable money in defending the case, and from the state of the record and all that, it is very evident he has spent considerable money. But as to going into why he spent that money, I don't think it is proper.

MR. RICHMOND: Then I will take an exception and let the matter rest.

Q Did you state that the Hamer Oil Well Cementing Company had three outfits cementing wells in California

(Testimony of L. J. Whitney.)

or elsewhere during the period from January, 1923, to the 4th day of March, 1924?

A Well, somewhere along about the first of the year 1923 they bought that Wigle and Cottengim outfit, and they had three, because I had been cementing with them myself. They bought those outfits. I wasn't associating with them all the time or around them, so I don't know how many they had. Afterwards they might have had more. I couldn't say that they didn't have less. I know they bought them. I don't know that they had three all that time; I couldn't say to that.

Testimony of

L. J. WHITNEY,

called for Defendant, sworn, testified as follows on

DIRECT EXAMINATION

by Mr. Westall:

I know the amounts received by the Perkins Oil Well Cementing Company for cementing oil wells during this accounting period, that is, during the period Owen and Bales were in partnership. The amount received per well was $250 for a cementing job. I have charge of the auditing department of the Perkins Oil Well Cementing Company. I am familiar with the different jobs as they come along, but I don't remember all of them as to the amount of money that has been received for the different oil well cementing jobs. I couldn't say without an examination of the records for the particular period inquired about whether there have been some jobs for which the Perkins Oil Well Cementing Company did not receive

(Testimony of L. J. Whitney.)

$250 per well. During the period from January, 1923, to March 4, 1924, there were no jobs under $250, to the very best of my recollection. But I couldn't say absolutely that, because I don't remember. Tubing jobs until comparatively recently we charged $250 for, the same as the other. During that time we cemented wells for the Shell Company, during the accounting period.

Q And will you say that you have always received $250 from the Shell Company for all wells cemented for them?

MR. RICHMOND: I object to that. Unless counsel will ask it as an impeaching question and has the intent of following it up and proving that anything else is different, I object to it. If it is just a fishing expedition I object to it. It is not relevant and it is not material.

THE MASTER: Overruled.

MR. RICHMOND: An exception.

A I feel quite certain of it during that period, that is, the period covering this accounting, January, 1923, until March 4, 1924. The first item on here is January 28.

During that period just referred to, January 28, 1923, to March 4, 1924, the Perkins Oil Well Cementing Company cemented wells for the Standard Oil Company.

MR. RICHMOND: The same objection, if your Honor please.

THE MASTER: Overruled.

MR. RICHMOND: And the further objection that it is in the nature of cross-examination, and this witness is not a party, and he has no right to call the witness and cross-examine his own witness.

THE MASTER: I don't think you are examining an adverse witness, I don't see that the question, though, is

(Testimony of L. J. Whitney.)

improper. I will allow you to go ahead with that line of examination.

MR. RICHMOND: An exception. And will my objection and exception go to all this line of testimony, to save repeating it?

THE MASTER: Yes.

THE WITNESS: The Perkins Oil Well Cementing Company received $250 per well for such cementing for the Standard Oil Company during the period mentioned, in all cases. I am sure about that as near as I can cover the period. We did very few tubing jobs for the Standard Oil Company during that time. Well, I don't think we did any tubing job for the Standard Oil Company during that period.

We did cementing for the General Petroleum Company during the period mentioned, January 28, 1923, to March 4, 1924. We received $250 for every well cemented for the General Petroleum Company during that period; that was our regular price.

Q You had no special contract with any of the companies whereby they were to receive any less price?

A No, sir.

MR. RICHMOND: I object to that as not proper examination. It is cross-examination of his own witness, and I ask that it be stricken.

THE MASTER: Overruled. Denied.

MR. RICHMOND: An exception.

THE WITNESS: During the accounting period just above referred to we did cementing for the Pan American Company, and charged them the same price, $250. We did not allow any discounts at all to the Shell Company,

(Testimony of L. J. Whitney.)
the Standard Oil Company, the General Petroleum Company or the Pan American Company during that period.

(Testimony closed.)

STIPULATION

STIPULATED that the foregoing Statement of Evidence, consisting of pages 1 to 166 inclusive, having been heretofore lodged and filed in the Clerk's Office February 27, 1929, and withdrawn under stipulation and order of court of March 19, 1929 for the purpose of making corrections agreed upon by the parties, having now been corrected in accordance with such stipulation, may now be filed as a true and correct Statement of the Evidence, as part of the record on appeal in said cause, subject to correction if any errors should later be found therein.

Dated this 22nd day of April, 1929.

Frederick S. Lyon
Leonard S. Lyon
Henry S. Richmond
Attorneys for Plaintiff-Appellee.
WESTALL AND WALLACE,
By Joseph F. Westall
Attorneys for Defendant-Appellant.

[Endorsed]: Statement of Evidence Under Rule 75 on Appeal from Final Decree, Being Evidence Before Master on Accounting. Lodged Feb. 27, 1929. R. S. Zimmerman, Clerk, by M. L. Gaines, Deputy Clerk.

Filed Jun. 26, 1929. R. S. Zimmerman, Clerk, by Edmund L. Smith, Deputy Clerk.

[TITLE OF COURT AND CAUSE.]

STIPULATION FOR WITHDRAWAL OF STATEMENTS OF EVIDENCE TO MAKE CERTAIN AGREED CHANGES AND CORRECTIONS.

STIPULATED that the Statement of Evidence (two volumes) on appeal from the Interlocutory Decree entered in the above entitled cause on the 23rd day of January, 1928, which statement was lodged and filed in the Clerk's Office of this court on the 14th day of March, 1928, also the Statement of Evidence (one volume) on appeal from the Final Decree entered on the 17th day of January, 1929, which statement was lodged in said Clerk's Office on the 27th day of February, 1929, may each be withdrawn by the attorneys for defendant appellant, or either of them, Ernest L. Wallace and Joseph F. Westall, for the purpose of making changes and corrections agreed upon by the parties hereto, it being the intent after making such changes and corrections that such Statements of Evidence may be refiled with the Clerk of this court as part of the record from which the transcript on the appeals heretofore taken from Interlocutory and Final Decrees shall be made up.

Dated this 19th day of March, 1929.

Frederick S. Lyon
Leonard S. Lyon
Henry S. Richmond
Attorneys for Plaintiff.
Westall and Wallace
By Joseph F. Westall
Attorneys for Defendant.

The foregoing Stipulation is approved, and it is so Ordered.

Paul J. McCormick
District Judge.

Apr 1, 1929

Received Vols 1 & 2 of Statement Lodged Mch 14/29 also Statement Lodged Feb 27/29 for purpose mentioned in foregoing stipulation

Joseph F. Westall
Atty for deft.

[Endorsed]: Filed Apr 1 1929 R. S. Zimmerman, Clerk, By M. L. Gaines, Deputy Clerk.

[Title of Court and Cause.]

ORDER FOR ACCOUNTING.

TO THE DEFENDANTS ABOVE NAMED AND TO WESTALL AND WALLACE AND JOSEPH F. WESTALL, their attorneys:

Pursuant to Interlocutory Decree in the above entitled suit, and in furtherance of the reference therein made, and for the purpose of taking and stating an account of the profits and gains which the defendants have derived by reason of the infringement adjudged in said Decree, and for the purpose of assessing any and all damages which plaintiff has sustained by reason of said infringement:

YOU, SAID J. M. OWEN and J. L. BALES, ARE HEREBY ORDERED AND DIRECTED to appear before me at the hour of 10:00 o'clock A. M. on the 24 day of April, 1928, at my office in the Post Office Building, Los Angeles, California, and bring with you and

render an account or statement in writing, under oath, of the profits and gains which you have derived or received by reason of the aforesaid infringement and that you set forth in detail the following:

1. The number of wells you have cemented using the infringing method referred to in paragraph 4 of said Interlocutory Decree.

2. The date on which each of said wells was cemented, the name and location of each well, the name of the party employing you to do such work, the name of the owner of the well, and the amount received by you for each of said jobs, particularly for the use of the method referred to in said paragraph.

3. The total cost to you of performing said infringing operation, giving in detail the character and amount of each item included therein.

AND IT IS FURTHER ORDERED that you have with you at said time all the books, papers, documents, statements, records, vouchers, and other things pertaining to such infringement and the amounts received or expended therein by you.

This order is directed to you, your employees, agents, representatives, associates, workmen, and attorneys, each of them as they may stand with you in relation to the premises; all in accordance with said Interlocutory Decree, and the power therein and thereby conferred upon me, and in accordance with Rules 60, 62 and 64, and the rules practiced in the Courts of Equity of the United States, and the Statutes of the United States, made and provided.

Dated at Los Angeles, California, this 24 day of March, 1928.

David B. Head
Master pro haec vice

[Endorsed]: Due Service and receipt of a Copy of the within Order is hereby admitted this 24th day of Mch, 1928 Westall & Wallace Atty. for Defts Filed Mar. 30, 1928. R. S. Zimmerman Clerk, by L. J. Cordes, Deputy Clerk

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[TITLE OF COURT AND CAUSE.]

REPORT OF SPECIAL MASTER.

TO THE HONORABLE JUDGES OF THE UNITED STATES DISTRICT COURT, SOUTHERN DISTRICT OF CALIFORNIA:

The undersigned, David B. Head, appointed Special Master pro haec vice, by an order of this court entered January 23, 1928, directing him to take and state an account of profits and gains and to assess damages in the above entitled cause, and to report thereon, herewith submits his report:

Pursuant to said order, the master on April 24, 1928, took his oath and ordered the defendants to file accounts under Equity Rule No. 63. The said accounts being filed, the cause was adjourned until May 29, 1928, and from time to time until June 13, 1928, at which time both parties rested. At all times there appeared for the plaintiff Henry S. Richmond, Esq., and for the defendants Joseph F. Westall, Esq. Subsequently both counsel have filed briefs of their points and authorities.

THE TESTIMONY: The testimony was taken down in shorthand by Ross Reynolds, the official reporter of this court, and transcribed by him, which transcript is filed with the papers in this case. By stipulation the testimony of Paul Paine, L. J. Whitney, A. A. Perkins, and W. C. McDuffie, given before the Honorable S. S. Montgomery, Special Master on accounting in the case of Perkins vs. Wigle et al, No. F-70, was incorporated in the evidence in this case (reporter's transcript, pages 5 to 8).

THEORY OF ACCOUNTING: The plaintiff asks damages based upon a reasonable royalty and lost sales. No evidence has been offered that brings this case within the scope of the rule laid down by the Supreme Court in Yale Lock Manufacturing Company vs. Sargent (117 U. S. 536) on the theory of *lost* sales. The defendants contend that on any theory the damages to be assessed are nominal, in that they gained no advantage in the use of the Perkins process from the process described as the "no plug" process. Granting arguendo that the "no plug" process was available for use during the time of the accounting period, this contention is not consistent with their previous representations in affidavits filed and evidence given before the court in this action. Their previous contentions tend to support plaintiff's theory that the success of their business depended, to a large extent, upon the use of a plug in their work in cementing oil wells. An examination of the opinions and decrees of this court in this action lead to the conclusion that all the cementing work done by the defendants wherein the plug was employed infringed the patent in suit. There is no evidence

tending to show that plugs sold be the defendants were used in the commission of infringed acts.

The master finds that it is most equitable to assess damages based on a reasonable royalty.

AMOUNT OF ROYALTY: In the case of Perkins vs. Wigle et al, No. F-70, referred to above, the Honorable C. C. Montgomery, sitting as Master in Chancery on accounting, found a reasonable royalty for the use of the process of the patent here in question to be in the sum of Fifty Dollars ($50.00) per well. The master herein finds that this sum is not excessive in view of the evidence before Mr. Montgomery. The greater part of the evidence offered in the case of Perkins vs. Wigle et al, bearing on the question of reasonable royalty, has been incorporated in this case and no additional evidence offered in the instant case casts any doubt upon the reasonableness of that determination.

Wherefore, the master finds:

I. That from January 26, 1923, to March 6, 1924, the defendants, J. M. Owen and J. L. Bales, were a co-partnership doing business under the name of the Owen Oil Well Cementing Company.

II. That the said co-partnership, between the said dates of January 26, 1923, and March 6, 1924, cemented three hundred and twenty-five (325) wells, using a process which infringed the Letters Patent in suit herein.

III. That a reasonable royalty for the use of the said process during the period above mentioned was in the amount of Fifty Dollars ($50.00) for each well cemented.

IV. That the defendants, J. M. Owen and J. L. Bales, are jointly and severally indebted to the plaintiff in the

sum of Sixteen Thousand Two Hundred and Fifty Dollars ($16,250.00).

RECOMMENDATION: That judgment be entered for the plaintiff in the sum of Sixteen Thousand Two Hundred and Fifty Dollars ($16,250.00), and plaintiff recover its costs.

Respectfully submitted,

David B. Head

MASTER PRO HAEC VICE.

IN THE DISTRICT COURT OF THE UNITED STATES FOR THE SOUTHERN DISTRICT OF CALIFORNIA, SOUTHERN DIVISION.

PERKINS OIL WELL CEMENTING COMPANY, Plaintiff, -vs- J. M. OWEN and J. L. BALES, Defendants.	)	In Equity. No. G-114-T

SUPPLEMENT TO REPORT OF SPECIAL MASTER.

The foregoing report was submitted to counsel for submission to the master of their exceptions.

Defendants have filed exceptions, which are herewith returned to the court with the file in this case.

All exceptions are denied.

Respectfully submitted,

David B. Head

MASTER PRO HAEC VICE.

[Endorsed]: Filed Dec. 20-1928 Dec 20 1928 R. S. Zimmerman, Clerk; by Edmund L. Smith, Deputy Clerk.

Perkins etc vs Owen

U. S. Dist. Court
So. Dist. of Cal. So. Div.
Defendants Schedules of Account—
Filed April 24, 1928 D B Head
Special Master.

AUDIT
CASH REVENUES AND DISBURSEMENTS
OWEN OIL WELL CEMENTING COMPANY

Co-Partnership
J. M. Owens and J. L. Bales
December 31st, 1922, to April 15th, 1927.

O. G. Miller, F. C. A.
Chartered Accountant
Long Beach, California
April 18th, 1928.

Owen Oil Well Cementing Co.
Long Beach, California
Gentlemen:—

As per your request, I am handing you herewith detailed audit of the books of the Company from December 21st, 1922, to April 15th, 1927, said audit being compiled from cash receipts and cash disbursements.

Exhibit 1—shows in detail all wells cemented from January 26th, 1923, to April 15th, 1927, together with the sale of chemicals, sale of cement, sale of plugs and cementing job where no plug was used. Said gross sales amount to $117,082.20, less discounts allowed on collections, less bad debts uncollectable, leaving a total collected on cash revenues of $109,201.80.

The cash revenues deposited in the First National Bank, as shown by Exhibit 5, amount to $110,303.51, deposits in Union State Bank $400.00, making a total of $110,703.51, less transfer from the Union State Bank to First National Bank of $1.71 and a deposit from the sale of Capital Assets of $1500.00, which leaves $109,-201.80.

Cash Revenues derived from interest on bank account, as shown by Exhibit 5, amounts to $71.50, making total gross revenues $109,273.30.

The following expense items appearing are as follows:

Paid for legal services—Exhibit 6.			12,602.02
Paid for Truck Exp.			
Gas & Oil	" 6.		2,912.66
Paid for Miscl. Expense	" 6.		4,659.02
Paid for Miscl. Labor	" 6.		13,723.81
Paid for Supplies	" 6.		19,930.06
Withdrawals: J M Owen	Exh. 6.	11,017.98	
Less Cash Adv.	" 5.	90.00	
Net Withdrawals by Owen			10,927.98
Withdrawals:			
J L Bales	Exh. 6.	11,185.27	
Less Cash Adv.	" 5.	257.30	
Net Withdrawals J. L. Bales			10.927.97

making a total of cash disbursed of $75,683.52, or a gross trading profit $33,589.78.

On December 26, 1924, said Owen Oil Well Cementing Co. sold their assets, as shown by Escrow #12848 C, dated Dec. 26th, 1924, for $13,922.56, which was disbursed, as follows:

Owen Oil Well Cementing Co.
Long Beach, Calif.
Sheet #2.

Legal Expense	Westall & Wallace	2442.80
Mortgage Paid to	" " " for legal exp.	2617 68
Interest Paid		26 18
Escrow Fee		6 50
Recording Expense		1 00
Account		1500 00
Withdrawals: J M Owen		3664 20
J L Bales		3664 20

The above escrow covered in detail by Exhibit 2.

The amount paid for the equipment sold, as shown by Exhibit 6, amounts to $29,615.02. The amount paid for patents on said plug, as shown by Exhibit 6, amounts to $5000.00, which leaves a total cost of $47,037.58, leaving a loss on the sale of Capital Assets of $33,115.02.

The Expense paid through the Union State Bank, as shown by Exhibit 3, is as follows:

Paid for taxes W O Welch	335 79
Paid for Com Exp. H C Thompson	62 50
making a total cash expense through the Union State Bank of	398.29

This leaves a net cash profit of $76.47, which is on deposit in the First National Bank and is detailed by Exhibit 5, showing the deposit of $113,722.31, less disbursements, Exhibit 6, amounting to $113,645.84, which leaves cash on hand, which has been verified in the First National Bank, $76.47.

In addition to the above expense, J. M. Owen has advanced as shown by Exhibit 4, for legal expenses $1858.31, leaving a net loss of $1781.84.

The withdrawals by J M Owen, as shown by Exhibit 6, less amount advanced Exhibit 5, amounts to $10,927.98. Withdrawals as shown by Exhibit 2, $3664.20, or total withdrawals of $14,-592.18. Withdrawals of J L Bales, as shown by Exhibit 6, less amount advanced, as shown by Exhibit 5, amounts to $10,927.97, withdrawal as shown by Exhibit 2, $3664.20, making a total withdrawal by J L Bales of $14,592.17.

A complete analysis of the above is attached hereto and I hereby certify that the above is a true and correct analysis of the attached schedules. Said schedules being derived from actual cash revenues and disbursements covered by vouchers and checks.

Respectfully Submitted,

O G Miller F. C. A. *F. C. A.*

OGM:A Chartered Accountant

State of California,
COUNTY OF LOS ANGELES } ss.

On this 18 day of April A. D., 1928, before me, M E Pe*t*rson, a Notary Public in and for said County and State, residing therein, duly commissioned and sworn, personally appeared O. G Miller F. C. A. known to me to be the person whose name subscribed to the within Instrument, and acknowledged to me that he executed the same.

In Witness Whereof, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.

[Seal] M. E Peterson
Notary Public in and for said County and State.

Profit & Loss
December 21st, 1922 to April 15th, 1927.

Revenues

Cash Revenues Derived	Exhibit 1		109201 80
" " Interest	" 5		71 50
			109273 30

Expense

Paid for Legal Services	Exh. 6.	12602 02	
" " Truck Exp. Gas & Oil	" 6.	2912 66	
" " Miscl. Expense	" 6.	4659 02	
" " " Labor	" 6.	13723 81	
" " Supplies	" 6.	19930 06	
" " Labor J M Owens	" 6. 11017 98		
Less Cash Advanced	" 5. 90 00		
		10927 98	
Paid for Labor J L Bales	" 6. 11185 27		
Less Cash Advanced	" 5. 257 30		
		10927 97	
			75683 52

Gross Trading Profit				33589 78
Sale Capital Assets				
Sale Assets	Exh. 2.		13922 56	
Legal Expense Westall & Wallace	"	2442 80		
" " Mtg " "	Exh. 2.	2617 68		
Interest Paid	" 2.	26 18		
Escrow Fee	" 2.	6 50		
Recording Fee	" 2.	1 00		
Paid for Equipment	" 6.	29615 02		
Paid for Patents	" 6.	5000 00		
Paid Labor J M Owens	" 2.	3664 20		
Paid " J L Bales	" 2.	3664 20		
			47037 58	
Gross Loss Sale Capital Assets				33115 02
				474 76
Expense				
Paid for Taxes W O Welch	Exh. 3.		335 79	
" " Expense H C Thompson	" 3.		62 50	
				398 29
				76 47

Expense J M Owens			
Legal Expense Exh. 4.			1858 31
Net Loss			1781 84
			Exhibit 1.

Anaylsis
Gross Revenues
Vs
Cash Revenues

Gross Revenues				
Receipts	Cementing with Plug 321 Wells	Exh. 7	80250 00	
"	" without " 82 "	" 7.	16964 25	
"	Chemical Sold	" 7.	18669 95	
"	Cement Sold	" 7.	850 00	
"	Plugs Sold	" 7.	348 00	
	Gross Revenues all sources	" 7.		117082 20
	Deductions from Gross Revenues.			
Discounts allowed on collections			2650 50	
Bad Debts uncollectable			5229 90	
				7880 40
				109201 80

Cash Revenues

Deposit from Collections on Sales	First Nat'l	Exh. 5.		110303 51
" " " " "	Union Nat'l	" 3.		400 00
				110703 51
Less Transfer Union State to First National		" 3.	1 71	
" Revenues Sale Capital Assets		" 2.	1500 00	
				1501 71
				109201 80

Exhibit 2.

Sale of Capital Assets
Escrow No. 12848 C
First National Bank
Dated December 26, 1924.

Receipts		13922 56
J M Owen	3664 20	
J L Bales	3664 20	
Westall & Wallace	2442 80	
Escrow Fee	6 50	
Mortgage Recording	1 00	
Account	1500 00	
Interest	26 18	
Mortgage Paid off Westall & Wallace	2617 68	
		13922 56

Exhibit 3.

Receipts
Disbursements
Union State Bank
12/2-24 to 4/15-28

12/2-24	Sales Collections		400 00
12/1-24	W O Welch Taxes	335 79	
12/4-24	H C Thompson Exp.	62 50	
1/8-25	First National Bank Sales	1 71	
		400 00	400 00

Exhibit 4.

Disbursed by J M Owen

2/ 6-28	Lyon & Lyon	708 31	
2/16-28	Bond for Appeal	250 00	
2/27-28	Westall & Wallace	900 00	
	Legal Expense paid by Owen		1858 31

Cash Revenues
Owen Oil Well Cementing Co.
December 21st, 1922 to April 15th, 1928.
Exhibit 5.

	Deposits Bank	Notes Payable J L Bales	Collection from Sales	J L Bales	J M Owen
12/21 Loan J L Bales	1 000 00	1 000 00			
12/28 Loan J L Bales	500 00	500 00			
1/6/23 Loan J L Bales	500 00	500 00			
1/17 Loan J L Bales	1 000 00	1 000 00			
1/20 Collection	100 00		100 00		
2/15 Collection	11 00		11 00		
2/23 Collection	150 00		150 00		
3/2 Collection	1 151 50		1 151 50		
3/5	743 15		743 15		
3/8	570 00		570 00		
3/13	644 10		644 10		
3/16	487 50		487 50		
3/19	8 75		8 75		
4/6	87 50		87 50		
11 Loan Owens & Bales	347 30			257 30	90 00
12 Collections	812 50		812 50		
16	608 00		608 00		
18	237 50		237 50		

21		250 00
25		874 00
5/2		304 00
12		304 00
17		320 00
21		313 60
6/2		250 00
2		75 00
6		313 60
7		105 00
11		150 00
13		793 80
15		622 30
18		100 00
19		250 00
21		570 00
23		803 60
27		500 00
7/5		250 00
10		100 00
10		1 328 80
11		315 00
12		250 00
16		245 00
21	250 00	
25	874 00	
5/2	304 00	
12	304 00	
17	320 00	
21	313 60	
6/2	250 00	
2	75 00	
6	313 60	
7	105 00	
11	150 00	
13	793 80	
15	622 30	
18	100 00	
19	250 00	
21	570 00	
23	803 60	
27	500 00	
7/5	250 00	
10	100 00	
10	1 328 80	
11	315 00	
12	250 00	
16	245 00	

19	28 50		28 50		
20	269 50		269 50		
21	1 031 20		1 031 20		
23	250 00		250 00		
8/4	245 00		245 00		
-7	1 198 50		1 198 50		
9	410 00		410 00		
11	340 00		340 00		
13	560 00		560 00		

Exhibit 5.

	Deposits Bank	Notes Payable J L Bales	Collection from Sales	J L Bales	J M Owens
14	548 80		548 80		
15	490 00		490 00		
16	1 176 60		1176 60		
17	610 00		610 00		
21	652 80		652 80		
24	311 90		311 90		
27	750 00		750 00		
29	6 25		6 25		
30	300 00		300 00		
9/1	800 00		800 00		
-4	583 20		583 20		
6	250 00		250 00		

7	352 80	352 80
11	583 20	583 20
12	303 80	303 80
12	275 00	275 00
14	310 00	310 00
15	1 493 10	1493 10
18	1 030 00	1030 00
20	607 60	607 60
21	458 80	458 80
26	250 00	250 00
27	303 80	303 80
29	250 00	250 00
10/2	352 80	352 80
11	894 40	894 40
13	1 800 00	1800 00
16	952 50	952 50
16	1 325 00	1325 00
18	1 364 70	1364 70
19	333 20	333 20
20	280 00	280 00
22	735 00	735 00
23	245 00	245 00
29	518 50	518 50
30	250 00	250 00
11/5	245 00	245 00

6	245 00		245 00			
8	1 000 00		1000 00			
15	843 50		843 50			
16	905 28		905 28			
17	580 70		580 70			
20	1 622 00		1622 00			
22	250 00		250 00			
23	735 00		735 00			
24	245 00		245 00			
28	735 00		735 00			
30	770 00		770 00			
30	1 253 18		1253 18			
12/3	716 62		716 62			
-6	12 50		12 50			
10	12 50		12 50			
11	291 55		291 55			
12	1 050 50		1050 50			
13	1 711 02		1711 02			

Exhibit 5.

	Deposits Bank	Notes Payable J L Bales	Collection. from Sales	J L Bayles	J M Owen
14	280 00		280 00		
15	428 75		428 75		
17	1548 05		1548 05		
17	837 90		837 90		

18	525 00	525 00
20	888 30	888 30
27	1201 72	1201 72
29	1225 00	1225 00
1924		
1/3	303 80	303 80
–5	217 15	217 15
7	630 00	630 00
8	850 00	850 00
8	200 00	200 00
9	965 00	965 00
11	499 25	499 25
14	12 50	12 50
16	3522 55	3522 55
17	1434 65	1434 65
18	250 00	250 00
19	891 38	891 38
22	1412 50	1412 50
23	1504 20	1504 20
24	388 80	388 80
29	310 00	310 00
30	583 80	583 80
2/1	405 70	405 70
–6	40 00	40 00
7	310 00	310 00

8	1457 50	1457 50
2/13	1265 86	1265 86
–14	325 00	325 00
16	1250 15	1250 15
18	858 20	858 20
21	900 85	900 85
23	326 59	326 59
26	1600 70	1600 70
29	669 40	669 40
3/1	303 80	303 80
11	91 91	91 91
11	107 25	107 25
12	830 55	830 55
12	280 00	280 00
13	1429 53	1429 53
14	250 00	250 00
15	2965 14	2965 14
17	620 95	620 95
21	316 15	316 15
25	155 00	155 00
4/8	650 85	650 85
–9	300 00	300 00
10	303 80	303 80
11	747 90	747 90
17	147 00	147 00

Exhibit 5.

	Deposits Bank	Notes Payable J)L Bales	Collection. from Sales	J L Bayles	J M Owen
17	843 29		843 29		
18	688 00		688 00		
19	200 00		200 00		
22	12 25		12 25		
25	250 00		250 00		
28	100 00		100 00		
5/16	304 17		304 17		
-17	225 00		225 00		
20	508 45		508 45		
26	20 00		20 00		
27	290 00		290 00		
27	350 00		350 00		
28	50 00		50 00		
31	150 00		150 00		
6/4	100 00		100 00		
6/6	1500 00		1500 00		
6/10	125 00		125 00		
6/12	341 75		341 75		
6/14	299 00		299 00		
6/17	125 00		125 00		
6/19	900 00		900 00		
6/25	24 50		24 50		
6/28	210 00		210 00		

7/1	415 00	415 00
11	204 00	204 00
18	482 70	482 70
25	454 56	454 56
31	315 00	315 00
8/1	310 00	310 00
-5	40 00	40 00
12	158 36	158 36
16	50 00	50 00
18	100 00	100 00
20	522 50	522 50
21	280 75	280 75
22	321 80	321 80
9/5	200 00	200 00
10	41 75	41 75
10	100 60	100 60
13	300 00	300 00
13	54 00	54 00
24	75 00	75 00
10/7	262 50	262 50
9-	101 14	101 14
11	75 00	75 00
23	15 00	15 00
27	265 00	265 00
11/3	12 00	12 00

11/25	123 50		123 50			
12/4	1600 00		1600 00			
-6	7 90		7 90			
24	172 25		172 25			
26	1500 00		1500 00			

Exhibit 5.

1925	Deposits Bank	Notes Payable J L Bales	Collection from Sales	J L Bales	J M Owens	Interest
1/8	1 71		1 71			
1/31	4 75					4 75
2/28	4 00					4 00
3/31	3 00					3 00
4/30	3 00					3 00
5/30	3 00					3 00
6/30	3 00					3 00
7/31	3 00					3 00
8/31	3 00					3 00
9/30	2 25					2 25
10/31	2 25					2 25
12/31	2 50					2 50
1926						
1/30	2 50					2 50

2/27	2 50					2 50
3/31	2 50					2 50
4/30	2 00					2 00
5/30	2 00					2 00
6/30	2 25					2 25
7/31	2 25					2 25
8/30	2 25					2 25
9/30	2 25					2 25
10/31	2 25					2 25
11/30	2 25					2 25
12/31	2 25					2 25
1927						
1/31	2 25					2 25
2/28	2 25					2 25
3/31	2 25					2 25
4/30	2 25					2 25
5/31	1 50					1 50
Totals	113,722 31	3,000 00	110,303 51	257 30	90 00	71 50

Summary of Revenues Collected

Deposits in Bank	113,722 31	
Receipts from loans		3,000 00
Receipts from sales		110,303 51

Advanced by J L Bales		257 30
Advanced by J M Owen		90 00
Receipts from Interest		71 50
	113,722 31	113,722 31

Exhibit 6.

Summary Cash Disbursed
FIRST NATIONAL BANK
12/21 -1922 to 4/15-27

Paid for Equipment	29615 02	
" " Legal Expense	12602 02	
" " Truck Expense Gas & Oil	2912 66	
" " Expense	4659 02	
" " Labor Miscellaneous	13723 81	
" " Supplies "	19930 06	
" " Labor Owens	11017 98	
" " " Bales	11185 27	
" " Patents	5000 00	
" " Notes Payable	3000 00	
Disbursed by Bank		113645 84
	113645 84	113645 84

rsed b
unk
0 00
6 10
1 50
9 00
2 53
2 30
4 02
6 25
1 60
8 80
4 28
5 00
0 00
2 53
8 75
0 00
0 00
7 50
0 00
0 00
0 00
4 02
5 09
0 00
7 30
1 88
2 10
2 50
3 25
2 00
6 60
4 86
0 00
5 00
1 80
3 80
0 00
2 28
0 00
0 00
6 00

Advanced by J L Bales		257 30
Advanced by J M Owen		90 00
Receipts from Interest		71 50
	113,722 31	113,722 31

Exhibit 6.

Summary Cash Disbursed
FIRST NATIONAL BANK
12/21 -1922 to 4/15-27

Paid for Equipment	29615 02	
" " Legal Expense	12602 02	
" " Truck Expense Gas & Oil	2912 66	
" " Expense	4659 02	
" " Labor Miscellaneous	13723 81	
" " Supplies "	19930 06	
" " Labor Owens	11017 98	
" " " Bales	11185 27	
" " Patents	5000 00	
" " Notes Payable	3000 00	
Disbursed by Bank		113645 84
	113645 84	113645 84

DISBURSEMENTS
OWEN OIL WELL CEMENTING COMPANY
December 26th, 1922 to April 1st, 1927.
Co-Partnership
J. M. Owen and J. L. Bales

Exhibit 6.

			Disbursed by Bank	Equipment	Legal	Truck Expense Gas & Oil	Expense	Labor	Supplies	J. M. Owen	J. L. Bales	Patents	Notes Payable
12/26-22	Star Drilling Co.	Equipment	100.00	100 00									
-	H M Rinehart	Engine	75 00	75 00									
12/28	J L Bales	Legal	25 00		25 00								
12/29	Kimball Motors	Truck	700 00	700 00									
1923													
1/3	J M Owen	Ford	225 00	225 00									
1/9	Star Drilling Co.	Pumps	698 50	698 50									
1/13	J L Bales	Misc.	54 30	49 70		1 60	3 00						
1/16	Standard Oil Co.	Oil	9 50			9 50							
1/19	Star Drilling Co.	Equipment	300 00	300 00									
1/19	Mrs Alice Murray	Truck	100 00	100 00									
1/30	J L Bales	Misc.	30 85	15 00		1 80	7 55	6 50					
1/31	F A McKenzie	License	8 80				8 80						
2/1	Hendersons	Office Stat.	9 25				9 25						
2/5	Winstead Bros.	Photos	8 50				8 50						
2/10	First Nat'l Bank	Car	34 02	34 02									
2/10	Argo Engine Co.	Equipment	120 33						120 33				
2/10	Tarr & Ware	Equipment	48 16	48 16									
2/10	Oil Well Supply	Equipment	68 64						68 64				
2/10	L B Tank Co	Equipment	47 50	47 50									
2/12	Wigle Cottengin O W C Co.	Cement	177 65						177 65				
2/12	Merrell S & D Co.	Plugs	19 50						19 50				
2/17	First Nat'l Bank	Truck	191 27	190 00			1 27						
2/16	Kimball Motors	License	25 40				25 40						
2/16	C E Owen	Labor	17 50					17 50					
2/23	C A Smith	Labor	50 00					50 00					
3/1	C H Bowden	Signs	7 00				7 00						
3/2	Mrs. Alice Murray	Truck	100 00	100 00									
3/2	Greens	Printing	34 00				34 00						
3/5	C A Smith	Labor	30 00					30 00					
3/5	J M Owen	Labor	250 00							250 00			
3/5	J M Owen	Expense	7 20			7 20							
3/5	J L Bales	Labor	250 00								250 00		
3/5	J L Bales	Expense	40 50				40 50						
3 8	Cottengin & Wigle	Outfit for cementing	100 00						100 00				
3/10	Standard Oil Co.	Gas & Oil	55 75			55 75							
3 10	Day & Churchill	Supplies	1 50						1 50				

Exhibit 6.

			Disbursed by			Truck Expense							
			Bank	Equipment	Legal	Gas & Oils	Expense	Labor	Supplies	J M Owen	J L Bales	Patents	Notes Payable
3/10	Star Drilling Co.	Equipment	500 00	500 00									
3/10	B & B Welding Co.	Equipment	76 10	76 10									
3/10	Brea Transfer	Hauling	1 50			1 50							
3/10	Merrill S & D Co.	Plugs	39 00						39 00				
3/10	Oil Well Supply	Supplies	52 53						52 53				
3/10	Wigle McBride Inc	Plugs	262 30						262 30				
3/10	First Nat'l Bank	Ford	34 02	34 02									
3/10	R H Briggs	Hauling	6 25			6 25							
3/13	Greens	Printing	11 60				11 60						
3/13	F A McKenzie	Ford Car	178 80	178 80									
3/12	Kimball Motors Co.	Truck	24 28	24 28									
3/15	C A Smith	Labor	75 00					75 00					
3/15	Kimball Motor Co.	Truck	500 00	500 00									
3/17	First Nat'l Bank	Truck	192 53	190 00			2 53						
3/17	C M Woods Co.	Supplies	318 75						318 75				
3/19	J M Owen	Labor	150 00							150 00			
3/19	J L Bales	Labor	150 00								150 00		
3/26	L B Tank Co.	Equipment	47 50	47 50									
3/31	H O Bales	Labor	100 00					100 00					
4/2	J L Bales	Interest	60 00				60 00						
4/11	M E Inskup	Plug Patent	500 00									500 00	
4/11	First Nat'l Bank	Ford	34 02	34 02									
4/13	L B Nat'l Bank	Ford	45 09	45 09						90 00			
4/12	J M Owen	Payment of Loan	90 00										
4/12	J L Bales	" " "	257 30								257 30		
4/14	Standard Oil Co.	Gas	11 88			11 88							
4/14	F A McKenzie	Repairs	2 10			2 10							
4/14	R H Briggs	Hauling	2 50			2 50							
4/14	W A Rubber Co.	Plugs	13 25						13 25				
4/14	Tarr & Ware	Plugs	22 00	22 00									
4/14	R H Harron Co.	Supplies	36 60						36 60				
4/14	J L Bales	Taxes	24 86				24 86						
4/16	O. Bales	Labor	100 00					100 00					
4/16	L B Tank Co.	Tank	15 00	15 00									
4/16	J L Bales	Ford	1 80			1 80							
4/17	First Nat'l Bank	Truck	193 80	190 00			3 80						
4/17	Remington Typewriter Co.	Equip.	60 00	60 00									
4/17	Wigle McBride Inc	Plugs	172 28						172 28				
4/17	C M Woods Co.	Chemical	200 00						200 00				
4/21	Hazard & Miller	Legal	40 00		40 00								
4/24	Brown Bevis Co	Saw & Engine	256 00	256 00									

Exhibit 6.

			Disbursed by Bank	Equipment	Legal	Truck Expense Gas & Oil	Expense	Labor	Supplies	J M Owen	J L Bales	Patents	Notes Payable
4/25	C M Woods Co.	Chemical	100 00						100 00				
4/24	Industrial Finance Corporation	Truck	113 90	113 90									
4/25	J M Owen	Labor	200 00							200 00			
4/25	J M Owen	Parts	11 50	11 50									
4/25	J L Bales	Labor	200 00								200 00		
4/25	J L Bales	Expense	36 60	21 55			15 05						
4/28	J M Owen	Legal	51 85		51 85								
4/28	Malcom Davis Co.	Insurance	58 00				58 00						
5/1	H O Bales	Labor	100 00					100 00					
5/1	H H Browzell	Labor	75 00					75 00					
	M E Inskup	Labor	50 00					50 00					
5/10	M E Inskup	Plug	500 00									500 00	
5/12	First Nat'l Bank	Ford	34 02	34 02									
5/14	Oil Well Supply	Supply	49 53						49 53				
5/14	Standard Oil Co.	Gas	34 39			34 39							
	Dobney Oil Syndicate	Gas	10 05			10 05							
	Kimball Motors Corp.	Repairs	18 50			18 50							
	Tarr & Ware	Supplies	23 72						23 72				
	Merrell S & D Co.	Supplies	72 00						72 00				
	L B Nat'l Bank	Ford	45 09	45 09									
5/17	H O Bales	Labor	100 00					100 00					
5/18	First Nat'l Bank	Truck	195 07	190 00			5 07						
5/21	J M Owen	Repairs	14 80			14 80							
	H H Brazell	Labor	75 00					75 00					
5/21	Curtis & Christenson	Repairs	3 90			3 90							
	Jones Hardware	Supplies	4 10						4 10				
5/24	Industrial Finance Corp.	Truck	114 54	114 54									
	W. A. Rubber Co.	Supplies	8 85						8 85.				
6/1	O L Dudley	Labor	115 00					115 00					
	H H Brazell	Labor	75 00					75 00					
	H O Bales	Labor	100 00					100 00					
6/5	E W Hopkins	Tax	60 45				60 45						
6/4	Brown Bevis Co.	Mch	105 00	105 00									
6/6	C M Woods Co.	Chemical	200 00						200 00				
6/9	O L Dudley	Labor	24 00					24 00					
6/12	M E Inskup	Patent & Interest	512 00				12 00					500 00	
	F A McKenzie	Ford	45 09	45 09									
	First Nat'l Bank	Ford	34 02	34 02									
	W. A. Rubber Co.	Supplies	129 75						129 75				
	W Porter & Co.	Supplies	74 14						74 14				
	Wigle & McBride	Supplies	29 36						29 36				

Exhibit 6.

			Disbursed by Bank	Equipment	Legal	Truck Expense and Gas & Oil	Expense	Labor	Supplies	J M Owen	J L Bales	Patents	Notes Payable
	L B Iron Works	Supplies	75 42			40 10							
	Oil Well Supply Co.	Supplies	54 42			8 10							
	Standard Oil Co.	Gas	40 10						75 42				
	Dobney Oil Syndicate	Gas	8 10						54 42				
	Wigle & Cottingin OWC Co	Supplies	33 67						33 67				
	Tarr & Ware	Supplies	5 45						5 45				
	Jones Hardware	Supplies	2 90						2 90				
	B & B Welding Co.	Supplies	3 50						3 50				
	R H Briggs	Hauling	5 00			5 00							
6/15	H O Bales	Labor	100 00					100 00					
	H H Brazell	Labor	87 50					87 50					
	Worthing Pump Co.	Equipment	58 65	58 65									
	A E Fickling Lbr Co.	Equipment	76 85	76 85									
	First Nat'l Bank	Truck	196 33	190 00			6 33						
	O L Dudley	Labor	16 00					16 00					
	W E Inskup	Interest	49 58				49 58						
6/18	Packard Truck Co.	Hauling	15 00			15 00							
	C M Woods Co.	Chemical	125 00						125 00				
6/19	J L Bales	Miscl.	55 83				55 83						
6/21	Greens	Printing	3 00				3 00						
6/22	Industrial Fin. Corp.	Truck	115 10	115 10									
	C M Woods Co.	Chemical	100 00						100 00				
6/23	Star Drilling Co.	Equipment	600 00	600 00									
	J M Owen	Miscl.	12 25				12 25						
6/25	Brown Bevis Co.	Supplies	103 20	103 20									
6/27	J L Bales	Miscl.	81 50				81 50						
	H O Bales	Lumber	44 00						44 00				
6/29	Westhall & Wallace	Legal	100 00		100 00								
6/30	H H Brezell	Labor	87 50					87 50					
6/15	J M Owen	Labor	100 00							100 00			
6/23	J M Owen	Labor	150 00							150 00			
6/23	J L Bales	Labor	300 00								300 00		
6/9	J M Owen	Labor	50 00							50 00			
6/30	C L Dudley	Labor	38 00					38 00					
	H O Bales	Labor	100 00					100 00					
7/5	Jones Hardware Co.	Supplies	14 44						14 44				
	Westhall & Wallace	Legal	150 00		150 00								
7/6	J L Bales	Miscl.	11 00				11 00						
	J M Owen	Labor	75 00							75 00			
	J L Bales	Labor	75 00								75 00		
7/7	C L Dudley	Labor	10 00					10 00					

Exhibit 6.

			Disbursed by Bank	Equipment	Legal	Truck Expense and Gas & Oil	Expense	Labor	Supplies	J M Owen	J L Bales	Patents	Notes Payable
7/9	W A Rubber Co.	Supplies	128 59						128 59				
	John Trouth	Auto	6 75			6 75							
	Tarr & Ware	Supplies	47 49						47 49				
	B & B Welding Co.	Supplies	6 10						6 10				
	H E Beavers	Supplies	27 00						27 00				
	Oil Well Supplies	Supplies	50 92						50 92				
	American W & P Co.	Supplies	43 37						43 37				
	Packard Truck Co.	Hauling	5 00			5 00							
	First Nat'l Bank	Ford	34 02	34 02									
	L B Nat'l Bank	Ford	45 09	45 09									
	The Sullivan Co.	Chemical	142 20						142 20				
	W Porter Co.	Supplies	40 01						40 01				
	L B Iron Works	Supplies	72 79						72 79				
	Standard Oil Co.	Gas & Oil	62 14			62 14							
	C M Woods Co.	Chemical	245 74						245 74				
7/11	M E Inskeep	Patents, Interest and Royalties	354 40				54 40					300 00	
7/11	J M Owen	Labor	50 00							50 00			
	J L Bales	Labor	50 00								50 00		
	H O Bales	Supplies	3 45						3 45				
	Greens	Printing	5 00				5 00						
7/14	John Trouth	Labor	100 00					100 00					
	H O Bales	Labor	100 00					100 00					
7/14	H H Brazell	Labor	87 50					87 50					
7/16	First Nat'l Bank	Interest	81 03				81 03						
7/18	First Nat'l Bank	Truck	197 60	190 00			7 60						
	J M Owens	Labor	50 00							50 00			
	J L Bales	Labor	50 00								50 00		
7/21	Industrial Fin. Corp.	Truck	116 08	116 08									
	Brown Bevis Co.	Supplies	103 77	103 77									
7/23	Star Drilling Co.	Equipment	600 00	600 00									
7/24	J M Owen	Labor	100 00							100 00			
	J L Bales	Labor	100 00								100 00		
	J L Bales	Expense	29 53				29 53						
7/26	J M Owen	Expense	4 45				4 45						
	J L Bales	Expense	59 76				59 76						
	A E Fickling Lbr Co.	Supplies	25 65						25 65				
7/28	O L Dudley	Labor	30 00					30 00					
7/31	J M Owen	Expense	36 50				36 50						
7/27	Greens	Printing	6 50				6 50						
7/31	John Trouth	Labor	133 33					133 33					

Exhibit 6.

			Disbursed by Bank	Equipment	Legal	Truck Expense Gas & Oil	Expense	Labor	Supplies	J M Owen	J L Bales	Patents	Notes Payable
	H O Bales	Labor	100 00					100 00					
	H H Brazell	Labor	87 50					87 50					
	B Brazell	Labor	20 00					20 00					
8/3	Weatherby & Slade	Supplies	45 85						45 85				
8/4	J M Owen	Labor	150 00							150 00			
	J L Bales	Labor	150 00								150 00		
8/7	First Nat'l Bank	Ford	34 02	34 02									
	L B National Bank	Ford	45 09	45 09									
8/10	M E Inskup	Patent, Int. & Roy.	374 67				74 67					300 00	
8/11	Jones Hardware	Supplies	15 79						15 79				
	Oil Well Supplies	"	137 44						137 44				
	Packard Truck Co.	Hauling	10 00			10 00							
	Standard Oil Co.	Gas & Oil	97 10			97 10							
	Tarr & Ware	Supplies	79 46						79 46				
	W A Rubber Co.	"	162 17						162 17				
	B & B Welding Co.	"	14 25						14 25				
	J M Owen	Exp.	6 85				6 85						
	J L Bales	Exp.	23 30				23 30						
	J M Owen	Labor	100 00							100 00			
	J L Bales	Labor	100 00								100 00		
8/13	Brown & Bevis Co.	Equip.	204 00	204 00									
8/14	Westall & Wallace	Legal	250 00		250 00								
8/15	L B Iron Works	Supplies	78 15						78 15				
	John Trouth	Labor	125 00					125 00					
	H O Bales	Labor	100 00					100 00					
	H H Brazall	Labor	87 50					87 50					
	F. Brazall	Labor	75 00					75 00					
8/15	First Nat'l Bank	Truck	198 86	190 00			8 86						
8/10	Sullivan Company	Chemical	976 08						976 08				
8/17	Cous Lbr Co.	Plugs	111 25						111 25				
8/18	J M Owen	Labor	300 00							300 00			
	J L Bales		300 00								300 00		
8/21	Central Mch Wks	Supplies	2 75						2 75				
8/23	L A Rubber Co	"	30 00						30 00				
	Westall & Wallace	Legal	346 70		346 70								
8/24	J M Owen	Exp.	57 54				57 54						
	J M Owen	Exp.	25 30							25 30			
	J L Bales	"	25 30								25 30		
8/25	J L Bales	Notes Payable	1000 00										1000 00
8/27	J L Bales	Exp.	42 30				42 30						
8/25	Ind. Finance Corp.	Truck	116 64	116 64									

Exhibit 6.

			Disbursed by Bank	Equipment	Legal	Truck Expense Gas & Oil	Expense	Labor	Supplies	J M Owen	J L Bales	Patents	Notes Payable
8/30	J M Owen	Exp.	10 00				10 00						
	J M Owen	Labor	100 00							100 00			
	J L Bales	"	100 00								100 00		
9/1	John Trouth	Labor	125 00					125 00					
	H O Bales	Labor	100 00					100 00					
	H H Brazell	Labor	87 50					87 50					
	B Brazell	Labor	75 00					75 00					
	Star Drilling Co.	Equipment	800 00	800 00									
	A S Goldsmith	Supplies	4 14						4 14				
	L S Hammer	"	150 00						150 00				
9/4	First Nat'l Bank	Truck	102 10	102 10									
	L B National Bank	Truck	225 45	225 45									
9/6	R H Briggs	Hauling	30 00			30 00							
	Tarr & Ware	Supplies	106 09						106 09				
	W Porter & Co.	Supplies	21 78						21 78				
	Curtis & Christinson	Supplies	3 78						3 78				
	H E Dawers	Supplies	5 25						5 25				
	L B Iron Works	"	38 95						38 95				
	L B Transfer	Hauling	9 00			9 00							
	W A Rubber Co.	Supplies	11 48						11 48				
	Jones Hardware Co.	Supplies	13 15						13 15				
9/7	Kimball Motor Corp.	Repairs	42 26			42 26							
	Packard Truck Co.	Hauling	15 00			15 00							
	Oil Well Supplies Co.	Supplies	34 77						34 77				
	J L Bales	Expense	14 00				14 00						
9/10	M E Inksup	Patent, Int. & Roy.	374 90				74 90					300 00	
	Cans Lbr Co	Plugs	100 00						100 00				
9/13	Sullivan Co	Chemical	404 25						404 25				
	Standard Oil Co.	Gas & Oil	99 58			99 58							
9/14	Cans Lbr Co	Plugs	108 00						108 00				
	Central Machine Works	Supplies	5 50						5 50				
9/14	L A Rubber Co.	Supplies	37 65						37 65				
9/15	First National Bank	Truck	200 14	190 00			10 14						
	Industrial Finance Corp.	Truck	117 20	117 20									
	Cans Lbr Co.	Supplies	19 00						19 00				
	G W Greane	Labor	36 25					36 25					
	S Wickham	Labor	25 00					25 00					
	O L Dudley	Labor	67 50					67 50					
	H O Bales	Labor	100 00					100 00					
	John Trouth	Labor	125 00					125 00					

Exhibit 5

			Disbursed by Bank	Equipment	Legal	Truck Expense Gas & Oil	Expense	Labor	Supplies	J M Owen	J L Bales	Patents	Notes Payable
	H H Brezell	Labor	100 00					100 00					
	Boyd Brezell	Labor	75 00					75 00					
	John Trouth	Labor	34 00					34 00					
9/17	Moreland Sales Corp.	Truck	500 00	500 00									
	Moreland Sales Corp.	Tax	13 90				13 90						
9/18	H O Melone	Ford	300 00	300 00									
	J L Bales	Exp.	37 95			37 95							
	Westall & Wallace	Legal	121 60		121 60								
	Superior Garage	Repair	111 75			111 75							
9/20	Central Machine Wks	Supplies	7 35						7 35				
9/21	Sam Wickham	Building	33 75	33 75									
9/22	H O Bales	Lbr	50 00					50 00					
-	Army & Navy	Equipment	18 30	18 30									
	Bogle Furn Co.	Equipment	23 50	23 50									
	B W Grean	Building	40 00	40 00									
	C L Dudley	"	76 50	76 50									
9/27	Gas & Appliance Co.	"	23 40	23 40									
9/28	Henderson Swanson Co.	Equipment	97 45	97 45									
	L B T & Desk Co.	Equipment	168 00	168 00									
	J L Bales	Building	17 65	17 65									
9/18	J M Owen	Labor	200 00							200 00			
	J L Bales		200 00								200 00		
9/7	J M Owen	Labor	100 00							100 00			
9/7	J L Bales	"	100 00								100 00		
9/8	J L Bales	"	300 00								300 00		
9/20	" "	"	200 00								200 00		
9/20	J M Owens	"	500 00							500 00			
9/28	A O Misher	Bldg.	66 09	66 09									
10/1	C L Dudley	"	45 15	45 15									
	John Trouth	Labor	125 00					125 00					
	H H Brezall	Labor	100 00					100 00					
	B Brazell	Labor	87 50					87 50					
	M Owen	Labor	75 80					75 80					
	J Trouth	Labor	10 00					10 00					
	H H Brezeall	Labor	14 00					14 00					
10/2	Moreland Sales Corp.	Insurance	99 50				99 50						
10/2	Jones Hardware Co.	Supplies	31 20						31 20				
	W A Rubber Co.	"	12 98						12 98				
	H. E. Deavers	"	5 25						5 25				
	A Well & Prosp Co.	"	5 98						5 98				
	Associated Telephone Co.	Exp.	2 30				2 30						

FOLDOUT BLANK

Exhibit 6.

			Disbursed by Bank	Equipment	Legal	Truck Expense Gas & Oil	Expense	Labor	Supplies	J M Owen	J L Bales	Patents	Notes Payable
	So. Co Gas Co.	"	5 00	5 00									
	T. E. Williams Co.	Plbg	23 87	23 87									
	American Ave. Hardware	Building	50 90	50 90									
	John Mattison	Insurance	20 00				20 00						
10/4	J L Bales	Expense	15 85				15 85						
	C Wilson	Legal	20 00		20 00								
10/5	M E Inksup	Patent, Int. & Roy.	367 14				67 14					300 00	
	L B Iron Works	Supplies	121 20						121 20				
	Oil Well Supply Co.	Supplies	231 38						231 38				
	J M Owen	Labor	100 00							100 00			
	J L Bales		100 00								100 00		
	L B Typewriter Ex	Equip	12 50	12 50									
10/6	Home Supply Co.	"	38 35	38 35									
	Packard Tr Co.	Hauling	42 75			42 75							
	Republic Supply Co.	Supplies	13 29						13 29				
	Tarr & Ware	Supplies	91 38						91 38				
	Westall & Wallace	Legal	37 50		37 50								
	C L Dudley	Bldg	67 50	67 50									
10/10	Smith & James	Equip.	62 00	62 00									
	Standard Oil Co.	Gas & Oil	63 31			63 31							
	Murray Hamer Oil W C Co.	Supplies	25 00						25 00				
10/11	C L Dudley	Bldg. & Plugs	33 75	11 40				22 35					
	J L Bales	Expense	15 20				15 20						
10/12	J M Owen	Labor	150 00							150 00			
	J L Bales	Labor	150 00								150 00		
	Star Drilling Co.	Equip.	2 000 00	2 000 00									
	L S Hamer	Equip.	50 00	50 00									
10/15	G M Stephens	Bldg.	57 50	57 50									
10/16	J T Horne	Labor	75 00					75 00					
	B Brazell	Labor	87 50					87 50					
	M Ownie	Labor	87 50					87 50					
	J Trouth	Labor	125 00					125 00					
	H H Brazall	Labor	125 00					125 00					
	J Trouth	"	20 00					20 00					
	H H Brazall	"	18 00					18 00					
	Westhall & Wallace	Legal	10 00		10 00								
	First Nat'l Bank	Truck	201 40	190 00			11 40						
	Industrial Fin. Corp.	"	118 38	118 38									
	Wilson & Glines	Repair	23 45			23 45							
	L B T & Desk Co.	Equip.	145 00	145 00									
10/16	S P Lbr Co.	Bldg. & Equip.	598 03	598 03									

Exhibit 6.

			Dishursed by Bank	Equipment	Legal	Truck Expense Gas & Oil	Expense	Labor	Supplies	J M Owen	J L Bales	Patents	Notes Payable
	Glen Clark Co.	Exp.	21 00				21 00						
10/18	J M Owen	Equipment	35 10	35 10									
	Sullivan Co.	Chemical	1 617 00						1 617 00				
	J L Bales	Bldg. & Exp.	311 05	302 50			8 55						
10/19	Herron & Hefferin	Hauling	2 50			2 50							
10/20	S*P Iron & Metal Co.	Saw	165 00	165 00									
	T A Owen	"	10 00	10 00									
10/22	Can Disc Co.	Ford	284 46	284 46									
10/24	A S Goldsmith	Exp.	9 61				9 61						
	R W Elliott	Equipment	350 00	350 00									
10/26	Quinn City S & D Co.	Bldg.	65 88	65 88									
11/1	S P Lbr Co	"	4 96	4 96									
	Am Ave. Hdw. Co.	"	5 50	5 50									
	J T Horne	Labor	75 00					75 00					
	B Brazell	"	87 50					87 50					
	H O Bales	"	125 00					125 00					
	John Trouth	"	125 00					125 00					
	H H Brezall	"	125 00					125 00					
	S Atkinson	"	29 10					29 10					
11/5	J M Owen	Exp.	49 05				49 05						
11/1	M Owene	Labor	87 50					87 50					
11/7	J M Owen	"	100 00							100 00			
	J L Bales	"	100 00								100 00		
11/15	J M Owens	"	200 00							200 00			
	J L Bales	"	200 00								200 00		
11/24	J L Bales	"	500 00								500 00		
	J M Owens	"	500 00							500 00			
11/5	Associated Tele Co.	Exp.	8 65				8 65						
	First Nat'l Bank	Ford	58 13	58 13									
11/6	Ware & Tarr	Supplies	91 11						91 11				
	Fickling Lbr Co.	"	17 95						17 95				
	H O Melone Co.	Ford	22 64			22 64							
11/1	Sullivan Co.	Chemical	323 40						323 40				
11/6	H E Deavers	Supplies	30 66						30 66				
	Crane Co.	"	25 90						25 90				
	Oil Well Supply	"	90 25						90 25				
	R H Briggs	Hauling	10 00			10 00							
	Republic Supply Co.	Supplies	20 67						20 67				
	W A Rubber Co.	"	37 88						37 88				
	Jones Hdw. Co.	"	24 93						24 93				
11/3	H H Brazall	Labor	10 00					10 00					
11/6	Smith & James	Tank	71 00	71 00									
11/8	J M Owen	Hauling	51 50			51 50							
	Clark & Wetepiro	Insurance	93 75				93 75						

Exhibit 6.

			Disbursed by Bank	Equipment	Legal	Truck Exp. Gas & Oil	Exp.	Labor	Supplies	J M Owen	J L Bales	Patents	Notes Payable
11/1	Mary Homer Oil W C Co.		25 00						25 00				
11/6	Greens	Prtg	23 00				23 00						
11/8	L B T & Desk Co.	Equip.	12 25	12 25									
11/3	John Trouth	Labor	18 00					18 00					
11/8	Westall & Wallace	Legal	39 75		39 75								
11/5	W A King Lomita Garage	Repair	8 00			8 00							
11/10	J L Bales	Exp.	17 50				17 50						
11/13	J L Bales	Equip & Repair	56 00	50 00		6 00							
11/8	H E Deavers	Supplies	11 73						11 73				
	M E Inskup	Patent, Int. & Roy	375 42				75 42					300 00	
11/13	A M Barker	Legal	30 00		30 00								
11/8	L B Iron Works	Supplies	84 31						84 31				
11/6	Packard Truck Co.	Hauling	10 50			10 50							
11/10	Standard Oil Co.	Gas & Oil	97 92			97 92							
11/15	Hill St. Garage	Repairs	69 95			69 95							
11/8	W Porter Co.	Supplies	124 88						124 88				
11/16	S. Atkinson	Labor	50 00					50 00					
	H O Bales	"	100 00					100 00					
11/17	J M Owens	Equip & Exp.	30 07	17 65			12 42						
11/7	B & B Welding Co.	Supplies	4 10						4 10				
11/16	H H Breazell	Labor	125 00					125 00					
	H H Breazell	"	22 00					22 00					
	M Owens	"	87 50					87 50					
	B Brazell	"	87 50					87 50					
	J F Horne	"	87 50					87 50					
	J Trouth	"	125 00					125 00					
	" "	"	22 00					22 00					
11/14	Cans Lbr Co.	Plugs	79 65						79 65				
11/17	F L Darlinz	Truck	612 24	612 24									
11/16	First Nat'l Bank	Truck	202 66	190 00			12 66						
11/20	Industrial Finance Corp.	Truck	119 24	119 24									
11/21	S Atkinson		4 00	4 00									
11/20	G F Hinsck	Taxes	4 62				4 62						
11/21	J M Owen	Advertising	90 00				90 00						
11/24	Moreland Motor Truck Co.	Truck	296 97	296 97									
	Malcom Doans Co.	Insurance	54 90				54 90						
	J L Bales	Expense	22 35				22 35						
11/30	R W Elliott	Supplies	375 00						375 00				
11/26	Moreland M Truck Co.	Truck	298 93	298 93									
12/1	H O Bales	Labor	125 00					125 00					
	H H Breazall	"	155 00					155 00					

Exhibit 6.

			Disbursed by Bank	Equipment	Legal	Truck Exp Gas & Oil	Expense	Labor	Supplies	J M Owen	J L Bales	Patent	Notes Payable
	S H Atkinson	"	62 50					62 50					
	M Owen	"	100 00					100 00					
	B Brazell	"	100 00					100 00					
	J T Horne	"	100 00					100 00					
11/24	J P Doyle	Legal	5 00		5 00								
12/1	F L Darling	Rep	23 70			23 70							
11/30	Central Mch Wks	Supplies	5 98						5 98				
12/1	John Trouth	Labor	161 00					161 00					
12/3	Star Drilling Co.	Equipment	1500 00	1500 00									
12/1	J M Owen	Labor	250 00							250 00			
12/6	Glen L. Clarke	Cigars	23 00				23 00						
12/6	Hill St. Garage	Repairs	6 60			6 60							
12/10	Associated Tele Co.	Expense	15 15				15 15						
	So. Co Gas Co.	Expense	1 38				1 38						
	J L Bales	Expense	19 90				19 90						
	Crane Co.	Supplies	26 18						26 18				
	R H Briggs	Hauling	7 00			7 00							
	O G Miller	Bookkeeper	134 50				134 50						
	H E Deaver	Supplies	24 35						24 35				
	Ware & Tare Corp.		100 65						100 65				
12/5	J L Bales	Exp.	28 70				28 70						
12/10	L B Iron Works	Sup	157 81						157 81				
	Shell Co.	Gas & Oil	100 00			100 00							
	Oil Well Sup Co.	Supplies	78						78				
12/10	J F Horne	Labor	67 50					67 50					
	Republic Supplies Co.	Supplies	85 88						85 88				
12/1	M E Inskap	Patent, Int. & Roy	415 66				115 66					300 00	
12/10	Jones Hardware	Supplies	14 99						14 99				
	A S Goldsmith	"	6 73						6 73				
	W A Rubber Co.	"	234 96						234 96				
	Packard Truck Co.	Hauling	8 75			8 75							
	Jerry Lyon Truck Co.	"	7 00			7 00							
	Ed Crail	"	3 50			3 50							
	Standard Oil Co.	Gas & Oil	89 30			89 30							
12/8	John Yates	Labor	5 00					5 00					
	First Nat'l Bank	Truck	203 94	190 00			13 94						
	T Owen	Labor	63 20					63 20					
12/15	H O Bales	"	125 00					125 00					
	S H Atkinson	"	62 50					62 50					
	H H Breazell	"	100 00					100 00					
	John Trouth	" 4	125 00					125 00					
	M Owen	"	100 00					100 00					
	H H Breazell	"	125 00					125 00					

Exhibit 6.

			Disbursed by Bank	Equipment	Legal	Truck Exp. Gas & Oils	Expense	Labor	Supplies	J M Owen	J L Bales	Patents	Notes Payable
	Shell Co.	Gas & Oil	100 00			100 00							
12/18	J L Bales	Expense	33 74				33 74						
12/15	H O Melone	Repairs	13 77			13 77							
12/18	Glen L Clark	Cigars	19 20				19 20						
12/17	W Porter Co.	Supplies	55 60						55 60				
	First Nat'l Bank	Notes Pay.	2020 85				20 85						2000 00
12/14	H L Bales	Expense	24 40				24 40						
12/22	R W Elliott	Supplies	550 00						550 00				
	Worthington Co.	"	45 30						45 30				
12/26	S H Atkinson	Labor	62 50					62 50					
12/24	Clark & Maspiro	Insurance	26 25				26 25						
	Glen L. Clark	Cigars	23 00				23 00						
	R W Elliott	Supplies	41 65						41 65				
	Mrs. J. M. Owen	Office	70 50				70 50						
12/14	Sullivan Co.	Chemical	1239 00						1239 00				
12/24	Industrial Fin. Co.	Truck	120 10	120 10									
	Citizens Nat'l Bank	Truck	300 90	300 90									
	Graham Brothers	Bldg.	50 46	50 46									
12/29	J L Bales	Exp.	23 70				23 70						
12/28	Westall & Wallace	Legal	500 00		500 00								
	J M Owen	Labor	200 00							200 00			
	J L Bales	Labor	200 00								200 00		
12/1	J L Bales	Labor	250 00								250 00		
12/21	J M Owen	Labor	600 00							600 00			
	J L Bales	Labor	600 00								600 00		
12/12	J M Owen	Advertising	110 00				110 00						
12/29	Greens Printing	Printing	6 50				6 50						
	Jones Hardware	Supplies	14 57						14 57				
	Tarr & Ware Corp.	"	38 51						38 51				
	Star Drilling Co.	Equipment	500 00	500 00									
12/31	John Trouth	Labor	125 00					125 00					
	H H Breazell	Labor	125 00					125 00					
	B Breazell	"	100 00					100 00					
	M Owen	"	100 00					100 00					
	T Owen	"	100 00					100 00					
	H O Bales	"	125 00					125 00					
	M E Inskup	Pat. Int. & Roy.	401 92				101 92					300 00	
	J L Bales	Expense	13 82				13 82						
	H H Breazell	Labor	50 00					50 00					
	John Trouth	"	44 00					44 00					
12/15	W O Welch	Tax	8 66				8 66						
12/24	Shell Co.	Gas & Oil	23 63			23 63							

Exhibit 6

			Disbursed by Bank	Equipment	Legal	Truck Expense Gas & Oils	Expense	Labor	Supplies	J M Owen	J L Bales	Patents	Notes Payable
	A Well & Prosp Co.	Supplies	124 18						124 18				
1924													
1/2	J L Bales	Expense	15 85				15 85						
1/3	Associated Tele Co.	"	12 75				12 75						
	L B Iron Works	Supplies	120 97						120 97				
1/5	E Crail	Hauling	3 00			3 00							
	J Lyon	"	7 60			7 60							
1/5	C R Cann	Repairs	3 50			3 50							
	H O Melone	"	31 89			31 89							
	A E Fickling	Supplies	4 80						4 80				
1/5	Crane Co.	Supplies	37 48						37 48				
	Kipp Supplies Co.	"	18 20						18 20				
	Republic Supplies Co.	"	62 36						62 36				
1/7	W A Rubber Co.	"	367 56						367 56				
1/8	H E Deavers	"	10 19						10 19				
	Westall & Wallace	Legal	500 00			500 00							
1/10	Oil Well Supply Co.	Supplies	23 67						23 67				
	L B T & D Co.	Equipment	30 20	30 20									
	J M Owen	Expense	33 35				33 35						
1/11	Doyle & Reynolds	Legal	93 10		93 10								
	First National Bank	Truck	395 30	395 30									
	L B T & D Co.	Expense	3 50				3 50						
1/16	Westall & Wallace	Legal	514 00		514 00								
1/17	Star Drilling Co	Equipment	2300 00	2300 00									
	Sullivan Co.	Chemical	1381 80						1381 80				
	Kimball Motors Co.	Repairs	196 94			196 94							
	Graham Brothers	Bldg.	2 50	2 50									
	J M Owen	Ford	264 00	264 00									
1/12	Merchants Nat'l Bank	Truck	317 47	317 47									
1/19	Kimball Motor Co.	Repairs	130 55			130 55							
	Industrial Finance Corp	Truck	241 20	241 20									
1/23	Citizens National Bank	"	302 86	302 86									
	H C S Oil Co.	Cement	300 00						300 00				
	M Owen	Labor	100 00					100 00					
	B Brezeall	"	100 00					100 00					
	J Trouth	"	125 00					125 00					
	S H Atkinson	"	62 50					62 50					
	T Owen	"	100 00					100 00					
	H O Bales	"	125 00					125 00					
	H H Breazall	"	125 00					125 00					
1/18	J L Bales	Expense	10 50				10 50						
	W Porter Co.	Supplies	70 57						70 57				

Exhibit 6.

			Dishursed by Bank	Equipment	Legal	Truck Expense Gas & Oil	Expense	Labor	Supplies	J M Owen	J L Bales	Patents	Notes Payable
1/19	Shell Company	Gas & Oil	100 00			100 00							
1/22	J M Owen	Licenses	131 00				131 00						
1/23	Greens	Printing	35 20				35 20						
1/25	J L Bales	Expense	24 85				24 85						
1/28	S Atkinson	Labor	62 50					62 50					
1/23	J M Owen	"	1000 00							1000 00			
	J L Bales	"	1000 00								1000 00		
1/10	J L Bales	"	200 00								200 00		
	J M Owen	"	200 00							200 00			
1/19	J M Owen	"	250 00							250 00			
	J L Bales	"	250 00								250 00		
1/29	B Breazell	"	93 25					93 25					
	So Co Gas Co.	Expense	2 73				2 73						
	Shell Co. 4	Gas & Oil	50 00			50 00							
1/31	M Owen	Labor	100 00					100 00					
	H O Bales	"	125 00					125 00					
	T Owen	"	100 00					100 00					
	L B Water Dept.	Expense	1 00				1 00						
	H H Breazell	Labor	161 00					161 00					
	John Trouth	"	169 00					169 00					
2/1	J L Bales	Expense	17 50				17 50						
2/8	" "	Labor	300 00								300 00		
	J M Owen	"	300 00							300 00			
2/7	Cash	Battery	48 45			48 45							
2/8	Graham Bros.	Expense	2 20				2 20						
	Star Drilling Co.	Equipment	331 63	331 63									
	Jones Hardware	Expense	11 25						11 25				
	Acme Electric Co.	Building	90 07	90 07									
	Hammond Lumber Co.	Supplies	11 86						11 86				
	Crane Co.	"	27 20						27 20				
	Shell Co.	Gas & Oil	30 01			30 01							
2/9	Rex R Shell Co.	Supplies	7 40						7 40				
	H O Bales	Expense	9 50				9 50						
	Ware & Tarr Corp.	Supplies	25 40						25 40				
	Republic Supplies Co.	Supplies	144 61						144 61				
	W A Rubber Co.	"	113 20						113 20				
	J M Owen	Expense	19 50				19 50						
	H O Melone Co.	Repairs	25 53			25 53							
	Associated Tele Co.	Expense	12 00				12 00						
2/21	J W McClatchie Co.	Supplies	389 30						389 30				
2/16	Sullivan Co.	"	1 464 70						1 464 70				

Exhibit 6.

			Disbursed by Bank	Equipment	Legal	Truck Exp. Gas & Oil	Expense	Labor	Supplies	J M Owen	J L Bales	Patents	Notes Payable
2/26	J M Owen	Labor	600 00							600 00			
	J L Bales	"	600 00								600 00		
2/23	Shell Co.	Gas & Oil	50 00			50 00							
2/21	Central Machine Works	Supplies	9 40						9 40				
2/27	J L Bales	Expense	28 85				28 85						
2/21	L B Water Dept.	"	1 00				1 00						
2/28	S H Atkinson	Labor	62 50					62 50					
2/13	Greens	Printing	7 00				7 00						
2/16	H O Bales	Labor	125 00					125 00					
2/9	Worthington Co.	Supplies	41 87						41 87				
2/16	I H Atkinson	Labor	62 50					62 50					
2/18	First National	Truck	176 17	176 17									
2/22	J L Bales	Expense	20 80				20 80						
2/21	" "	Labor	350 00								350 00		
	J M Owens	Labor	350 00							350 00			
2/23	Citizens National Bank	Truck	304 84	304 84									
2/14	J M Owen	Labor	350 00							350 00			
	J L Bales	"	350 00								350 00		
2/9	Auto Club	Insurance	208 69				208 69						
2/8	Willowville Oil Tool Co.	Supplies	3 00						3 00				
	Long Beach Iron Works	"	61 41						61 41				
2/16	J L Bales	Expense	13 10				13 10						
2/5	Kipp Supplies	Supplies	24 89						24 89				
2/13	A S Goldsmith	"	6 49						6 49				
2/13	Shell Co.	Gas & Oil	50 00			50 00							
2/16	John Trouth	Labor	125 00					125 00					
	T Owen	"	100 00					100 00					
	H H Beazell	"	125 00					125 00					
	M Owen	"	100 00					100 00					
2/9	Prout & Dutton	Supplies	23 03						23 03				
2/6	M E Inskup	Patents, Int. & Royalties	376 16					76 16				300 00	
2/8	Oil Well Supplies	Supplies	16 21						16 21				
	J Lyon Truck Co.	Hauling	12 15			12 15							
2/26	Industrial Fin. Corp.	Truck	245 30	245 30									
3/1	B Breazell	Labor	113 32					113 32					
	T Owen	Labor	100 00					100 00					
	M Owen	"	100 00					100 00					
	So Co Gas Co.	Expense	1 68				1 68						
	John Trouth	Labor	149 00					149 00					
	H H Beazell	Labor	145 00					145 00					

Exhibit 6.

			Disbursed by Bank	Equipment	Legal	Truck Expense Gas & Oil	Expense	Labor	Supplies	J M Owen	J L Bales	Patents	Notes Payable
	H O Bales	"	125 00					125 00					
3/4	" "	"	33 35					33 35					
	B Breazell	" 4	26 65					26 65					
	T Owen	"	26 65					26 65					
	M Owen	"	26 65					26 65					
	H H Breazell	"	41 35					41 35					
	John Trouth	"	41 35					41 35					
2/8	R M Fulton	Legal	70 00		70 00								
2/21	Am. Well Prosp Co.	Supplies	24 57						24 57				
3/13	J L Bales	Expense	24 15				24 15						
	Associated Tele Co.	"	16 75				16 75						
3/10	M E Inskup	Pat. Int. & Roy.	348 41				48 41					300 00	
3/13	Crane Co.	Supplies	22 23						22 23				
	Hammond Lumber Co.	"	411 82						411 82				
	Jones Hdw. Co.	"	16 30						16 30				
	H O Medone Co.	Repairs	13 20			13 20							
	A S Goldsmith	Supplies	8 17						8 17				
	L B Tele Directory	Adv.	3 50				3 50						
	First Nat'l Bank	Truck	167 20	167 20									
Re	Republic Supply	Supplies	18 41						18 41				
3/13	W A Rubber Co	"	209 29						209 29				
3/17	J L Bales	Expense	11 35				11 35						
3/13	L B Iron Works	Supplies	34 20						34 20				
3/15	S Atkinson	Labor	29 20					29 20					
	Press	Adv.	4 41				4 41						
	M W Owen	Labor	39 95					39 95					
	H H Breazell	"	16 65					16 65					
	Telegram	Adv.	4 41				4 41						
3/14	Industrial Mtg Fin. Corp.	Truck	200 76	200 76									
3/15	John Trouth	Labor	83 00					83 00					
	B Breazell	"	59 95					59 95					
3/15	Kipp Supplies	Supplies	4 40						4 40				
	Ed Crail	Hauling	27 25			27 25							
3/21	Doyle & Reynolds	Legal	95 60		95 60								
	L B Water Dept.	Exp.	1 00				1 00						
	S W Welding & Mch Co.	Supplies	4 62						4 62				
	Hill St. Garage	Repairs	4 40			4 40							
3/24	First Nat'l Bank												
	Crshew Ck vs: Perkins		3 591 25		3 591 25								
	First Natl Bank	Elliott	350 00						350 00				
4/1	J L Bales	Exp.	13 40				13 40						
4/2	B Breazill	Labor	80 00					80 00					
	M Owen	"	81 00					81 00					

Exhibit 6.

			Disbursed by Bank	Equipment	Legal	Truck Expense Gas & Oil	Expense	Labor	Supplies	J M Owen	J L Bales	Patents	Notes Payable
	H H Breazell	Labor	69 95					69 95					
	H O Bales	Labor	75 00					75 00					
	John Trouth	Labor	145 35					145 35					
	J M Owen	"	100 00							100 00			
	J L Bales	"	100 00								100 00		
	Shell Co.	Gas & Oil	97 00			97 00							
	Associated Tele Co.	Exp.	4 75				4 75						
	Carpe Bros	Supplies	5 00						5 00				
	Oil Well Supplies Co.	"	3 73						3 73				
	Tele Directory Co.	Advertising	3 50				3 50						
	So Co Gas Co	Expense	1 47				1 47						
	City Nat'l Bank	Truck	306 80	306 80									
	Ed Crail	Hauling	3 00			3 00							
	Crane & Co.	Supplies	1 56						1 56				
	Republic Supply Co.	"	58 73						58 73				
	Kipp Supply Co.	"	40 45						40 45				
	W A Rubber Co.	"	4 90						4 90				
	Jones Hardware	"	4 04						4 04				
	H O Melone Co.	Repair	16 75			16 75							
4/8	Smith & Jones	Mud Tank	146 02	146 02									
	F C Dittman	Expense	5 00				5 00						
4/9	First National	Bond	250 00		250 00								
8/10	M E Inskup	Pat., Int. & Roy.	320 67				20 67					300 00	
4/10	H E Deavers	Supplies	28 39						28 39				
	L B Iron Works	"	54 67						54 67				
	Shell Company	Gas & Oil	50 00			50 00							
	Packard Truck Co.	Hauling	2 50			2 50							
4/14	J M Owen	Labor	350 00							350 00			
	J L Bales	"	350 00								350 00		
4/15	H H Breazeall	"	87 50					87 50					
	H O Bales	"	75 00					75 00					
	J M Owen	"	100 00							100 00			
	J L Bales	"	100 00								100 00		
	J L Bales	Expense	15 10				15 10						
4/16	First Nat'l Bank	Truck	168 30	168 30									
4/17	So. Calif. Edison	Expense	6 25				6 25						
	Doyle & Reynolds	Legal	29 00		29 00								
	J M Owen	Repairs	20 00			20 00							
4/18	Kimball Motors	"	11 65			11 65							
	Lacey W & B Works	Supplies	10 25						10 25				
	Lyon Truck Co.	Hauling	54 23			54 23							

Exhibit 6.

			Disbursed by Bank	Equipment	Legal	Truck Expense Gas & Oil	Expense	Labor	Supplies	J M Owens	J L Bales	Patents	Notes Payable
4/25	Westall & Wallace	Legal	250 00		250 00								
4/18	J M Owen	Hose	8 00	8 00									
	J L Bales	Exp.	8 90				8 90						
	Shell Company	Gas & Oil	10 88			10 88							
	Citizens National Bank	Truck	308 76	308 76									
4/25	L B Water Dept.	Expense	1 00				1 00						
4/30	H O Bales	Labor	75 00					75 00					
	J L Bales	"	100 00								100 00		
	J M Owen	Labor	100 00							100 00			
	H H Breazell	Labor	87 50					87 50					
5/1	Republic Supply Co.	Supplies	8 87						8 87				
	Oil-Well Supply Co.	Supplies	1 65						1 65				
	Greens	Printing	14 25				14 25						
5/3	Associated Tele Co.	Expense	4 70				4 70						
4/25	Worthington Co.	Supplies	19 08						19 08				
5/1	W A Rubber Co.	Supplies	4 99						4 99				
5/3	B & B Welding Co.	Supplies	2 00						2 00				
	L B Telephone Dir.	Expense	3 50				3 50						
	H O Melone Co.	Repairs	3 83			3 83							
	Auto Club	Insurance	266 87				266 87						
5/10	M E Inskip	Pat. Int. & Roy	301 75				1 75					300 00	
4/25	Am Well & Prosp Co.	Supplies	36 62						36 62				
5/16	H O Bales	Labor	75 00					75 00					
	J L Bales	"	100 00								100 00		
	J M Owen	"	100 00							100 00			
5/15	So Calif Edison Co	Expense	6 25				6 25						
5/16	H H Breazell	Labor	87 50					87 50					
5/23	First Nat'l Bank	Printing	20 00				20 00						
6/6	First Nat'l Bank	Truck	169 40	169 40									
5/19	Westall & Wallace	Legal	250 00		250 00								
	Doyle & Reynolds	"	9 10		9 10								
5/21	J L Bales	Expense	8 95				8 95						
5/23	L B Water Dept.	"	1 00				1 00						
5/28	O G Miller	"	125 00				125 00						
	John M Fulton	Legal	75 00		75 00								
	Westall & Wallace	"	250 00		250 00								
5/31	H O Bales	Labor	75 00					75 00					
	J L Bales	"	100 00								100 00		
	H H Breazell	"	87 50					87 50					
	Citizens Nat'l Bank	Truck	310 74	310 74									
	Shell Company	Gas & Oil	30 00			30 00							

Exhibit 6.

			Disbursed by Bank	Equipment	Legal	Truck Expense Gas & Oil	Truck Expense Expense	Labor	Supplies	J M Owens	J L Bales	Patents	Notes Payable
	Republic Supply Co.	Supplies	1 62						1 62				
	Oil Well " "	"	3 75						3 75				
	J M Owen	Labor	100 00							100 00			
6/6	" "	"	250 00							250 00			
	J L Bales	"	250 00								250 00		
6/9	Assoc. Tele. Co.	Expense	2 80				2 80						
	L B Tele Directory	Expense	3 50				3 50						
6/10	M E Inskup	Pat. & Interest	207 17				7 17					200 00	
	Sullivan & Co.	Chemical	510 00						510 00				
	Crane Company	Supplies	2 70						2 70				
6/9	J L Bales	Expense	12 50				12 50						
	Westall & Wallace	Legal	200 00		200 00								
6/10	Shell Company	Gas & Oil	30 00			30 00							
6/11	Kimball Motors Co.	Repairs	152 20			152 20							
6/12	First Nat'l Bank	Truck	170 50	170 50									
6/14	H H Breazell	Labor	87 50					87 50					
	H O Bales	Labor	75 00					75 00					
	J M Owen	"	100 00							100 00			
	J L Bales	"	100 00								100 00		
6/16	First Nat'l Bank	Trip to Louisiana	1505 00		1505 00								
6/16	Westall & Wallace	Legal	150 00		150 00								
6/17	So. Calif. Edison Co.	Expense	6 25				6 25						
6/19	Sullivan & Co.	Chemical	498 15						498 15				
	Westall & Wallace	Legal	174 16		174 16								
	J M Owen	Labor	300 00							300 00			
	J L Bales	"	300 00								300 00		
6/21	A P Michael Narlian	Legal	92 50		92 50								
6/26	Westall & Wallace	Legal	275 00		275 00								
	City Nat'l Bank	Truck	312 70	312 70									
7/1	H H Breazell		87 50					87 50					
	H O Bales		75 00					75 00					
7/1	L B Tele Directory	Advertising	3 50				3 50						
	Shell Company	Gas & Oil	30 00			30 00							
	M E Inskup	Royalty	6 00				6 00						
7/3	H O Bales	Expense	14 55				14 55						
7/7	Associated Tele Co.	Expense	4 80				4 80						
7/1	Hamer Oil W C Co.	Supplies	25 00						25 00				
7/15	J M Owen	Labor	100 00							100 00			
	J L Bales	"	100 00								100 00		
	H H Breazell	"	87 50					87 50					
	H O Bales	"	75 00					75 00					

Exhibit 6.

			Disbursed by Bank	Equipment	Legal	Truck Expense Gas & Oil	Expense	Labor	Supplies	J M Owens	J L Bales	Patents	Notes Payable
7/16	Shell Co. of Calif.	Gas & Oil	40 88			40 88							
	Republic Supply	Supplies	3 42						3 42				
	So. Calif Edison	Expense	6 25				6 25						
7/28	J L Bales	Labor	135 45								135 45		
	J M Owen	"	135 45							135 45			
8/1	H H Breazall	"	87 50					87 50					
	H O Bales	"	75 00					75 00					
	J M Owen	"	100 00							100 00			
	J L Bales	"	100 00								100 00		
8/4	F D Monckton	Appeal	1000 00		1000 00								
8/6	W A Rubber Co.	Supplies	5 60						5 60				
	L B Telephone Directory	Advertising	3 50				3 50						
8/5	Star Drilling Co.	Supplies	49 40						49 40				
	J L Bales	Expense	16 55				16 55						
	M E Inskup	Royalty	6 00				6 00						
	First Nat'l Bank	Truck	172 22	172 22									
	Sherwin Williams Pt. Co.	Supplies	14 40						14 40				
8/7	H O Bales	Labor	35 00					35 00					
8/8	A P M Narlian	Legal	25 00		25 00								
8/12	Assoc. Tele Co.	Expense	9 45				9 45						
	So: Calif. Edison Co.	Expense	6 25				6 25						
8/15	H H Breazell	Labor	87 50					87 50					
	J M Owen	Expense	4 95				4 95						
	J M Owen	Labor	100 00							100 00			
	J L Bales	Labor	100 00	E							100 00		
	" "	Expense	4 00				4 00						
8/20	J M Owen	Labor	150 00							150 00			
	J L Bales	"	150 00								150 00		
	W A Rubber Co.	Supplies	3 14						3 14				
	Oil Well Supply Co.	Supplies	2 71						2 71				
	Citizens Nat'l Bank	Truck	314 66	314 66									
8/25	J M Owen	Labor	150 00							150 00			
	J L Bales	"	150 00								150 00		
8/20	C M Woods	Supplies	33 75						33 75				
9/1	" "	"	2 00						2 00				
9/3	J M Owens	Labor	100 00							100 00			
	J L Bales	"	100 00								100 00		
9/4	H O Bales	"	15 00					15 00					
9/5	J M Owen	"	100 00							100 00			
	J L Bales	"	100 00								100 00		
9/8	M E Inskup	Royalties	2 00				2 00						

Exhibit 6

			Disbursed by Bank	Equipment	Legal	Truck Expense Gas & Oil	Truck Expense Expense	Labor	Supplies	J M Owens	J L Bales	Patent	Notes Payable
	L B Water Dept.	Expense	1 00				1 00						
	L B Gas Dept.	Expense	75				75						
	" Tele Directory	Advertising	3 50				3 50						
	J L Bales	Expense	5 55				5 55						
9/9	R T Russ	Legal	24 90		24 90								
	Assoc. Tele Co.	Expense	8 70				8 70						
9/11	Roy Ind Co.	Insurance	90 46				90 46						
9/15	J M Owen	Labor	225 00							225 00			
	J L Bales	"	225 00								225 00		
9/16	So. Calif Edison Co.	Expense	6 25				6 25						
9/23	J*W Harper	Labor	6 00					6 00					
	J L Bales	Expense	5 10				5 10						
9/24	J M Owen	Labor	30 00							30 00			
	J L Bales	"	30 00								30 00		
10/6	Clerk U S Court	Appeal	58 30		58 30								
	L B Tele Directory	Advertising	3 50				3 50						
	Assoc. Tele Co.	Expense	6 85				6 85						
	J L Bales	"	5 95				5 95						
10/9	First Nat'l Bank	Truck	128 41	128 41									
	Moreland Sales Corp.	Expense	47 82				47 82						
	J M Owen	Labor	50 00							50 00			
	J L Bales	"	50 00								50 00		
10/13	Doyle & Reynolds	Legal	36 20		36 20								
	O G Miller	Expense	30 00				30 00						
10/15	So. Calif. Edison	Expense	5 00				5 00						
	J M Owen	Labor	30 00							30 00			
	J L Bales	"	30 00								30 00		
10/26	Parker Stone Baird Co.	Legal	76 70		76 70								
10/21	Packard Truck Co.	Hauling	5 25			5 25							
	So. Calif. Edison Co.	Expense	1 25				1 25						
10/22	L B Water Dept.	Expense	75				75						
10/28	Moreland Motor Truck Co.	Truck	102 36	102 36									
11/5	F O Monckton Clerrk	Legal	16 45		16 45								
11/6	J L Ething	Legal	57 50		57 50								
	Westall & Wallace	Legal	48 95		48 95								
	Auto Club	Insurance	17 00				17 00						
	L B Tele Directory	Advertising	3 50				3 50						
11/6	Associated Tele Co.	Expense	6 40				6 40						
	L B Gas Dept.	"	75				75						
11/13	E Bellanfaute	"	6 00				6 00						
11/17	Press Telegram	"	5 60				5 60						

Exhibit 6

			Disbursed by Bank	Equipment	Legal	Truck Expense Gas & Oil	Expense	Labor	Supplies	J M Owens	J L Bales	Patent	Notes Payable
11/20	Parker Baird Stone Co.	Legal	21 25		21 25								
	H O Bales	Expense	1 00				1 00						
11/28	Citizens Nat'l Bank	Truck	102 36	102 36									
12/5	First National Bank	Truck	265 35	265 35									
	" " "	"	409 44	409 44									
	" " "	"	175 75	175 75									
12/10	Associated Tele Co.	Expense	5 40				5 40						
	W A Rubber Co.	Supplies	13 75						13 75				
	Republic Supply	"	7 74						7 74				
	L B Tele Directory	Advertising	12 60				12 60						
	O G Miller	Expense	30 00				30 00						
12/13	J L Bales	Star Drilling a/c	390 40	390 40									
12/15	Clark & Maspiro	Insurance	58 33				58 33						
	J L Bales	Expense	8 82				8 82						
12/18	S P Lbr Co	Supplies	5 75						5 75				
12/18	J M Owen	Expense	2 00				2 00						
12/30	J L Bales	"	3 75				3 75						
1925													
12/30	Westall & Wallace	Legal	2 14		2 14								
	J L Bales	Expense	5 10				5 10						
	W O Welch	Tax	26 54				26 54						
	So. Calif. Edison	Exp.	1 77				1 77						
1/8	Westall & Wallace	Legal	2 35		2 35								
2/3	" "	"	200 00		200 00								
2/16	O G Miller	Exp.	40 00				40 00						
3/5	J L Bales	"	12 18				12 18						
	J M Owen	Labor	200 00							200 00			
	J L Bales	"	200 00								200 00		
	Westall & Wallace	Legal	21 45		21 45								
11/5-24	M E Inskup	Royalty	2 00				2 00						
7/23	J L Bales	Legal	28 90		28 90								
7/23	Westall & Wallace	"	19 66		19 66								
9/16	J L Bales	Ticket Legal	85 00		85 00								
9/16	C N Williams Clerk	"	10 00		10 00								
9/16	Westall & Wallace	"	115 10		115 10								
4/12	W B Sandnes	Owens & Bales	114 45							57 23	57 22		
5/16	J L Bales	Labor	100 00								100 00		
	J M Owens	"	100 00							100 00			
	Don Wallace	Legal	31 32		31 32								

Exhibit 6.

			Disbursed by Bank	Equipment	Truck & Expense Legal	Gas & Oil	Expense	Labor	Supplies	J M Owens	J L Bales	Patent	Notes Payable
5/4	R S Zimmerman	Legal	3 00		3 00								
9/21	Westall & Wallace	"	100 00		100 00								
6/8	Reynolds & St Maurn	"	430 25		430 25								
6/9	J M Owen L W Pierce	"	86 49		86 49								
	TOTALS — — — — — —		113,645 84	29,615 02	12,602 02	2,912 66	4,659 02	13,723 81	19,930 06	11,017 98	11,185 27	5,000 00	3,000 00

SALES
OWEN OIL WELL CEMENTING CO.
January 1st 1923 to Sept. 30th, 1924.

Exhibit 7.

1923		Well	Cement Used	Plug	Chemical	Casing	Sale Chemical	Plug Cementing	Sales Cement	No Plug Cementing	Sale Plugs
1/26	York Smullen Drilling Co.	C. D. Beachamp	150	Yes	No	15½				125 00	
1/28	Bellridge Oil Co.		150	Yes	No	12½		250 00			
2/2	Henderson Petroleum Corporation	Rogers #2	75	Yes	No	15½		250 00			
2/7	Keck Syndicate	Keck #3	60	Yes	10	6	35 00	250 00			
2/8	Dobney Oil Co.	#19	70	Yes	10	8¼	35 00	250 00			
2/10	Dobney Oil Co.	#15	500	Yes	41	10	143 50	250 00			
2/12	Fred B Foster	#4	500	Yes	40	8¼	140 00	250 00			
2/12	Keck Syndicate	#2	150	Yes	No	15½		250 00	255 00		
2/14	Hackworth Brunner & Fox	Wilmington Hopkins #1	100	Yes	No	15½		250 00			
2/15	Consolidated Mutual Oil Co.	#1	150	Yes	No	15½		250 00			
2/16	Fred B Foster	Prospect #1	150	Yes	20	12½	70 00	250 00			
2/17	Orange County Drilling Co.	Tarman Taylor	300	Yes	20	8¼	70 00	250 00			
2/20	Fred B Foster	#3	None	No	25	8¼	87 50				
2/21	Henderson Petroleum Syndicate	Hethroe #1	95	Yes	No	16		250 00			
2/28	Orange County Drilling Co.	Transport	100	Yes	No	15½		250 00			
3/11	Federal Drilling Co.	Light Anchor	500	Yes	60	8¼	210 00	250 00			
3/11	McKeon Drilling Co.	Pan Hellanic	100	Yes	No	12½		250 00			
3/17	Federal Drilling Co.	Anchor Oil Co.	340	Yes	60	8¼	210 00	250 00			
3/19	Five O Drilling Co.	Turner #1	92	Yes	20	15½	70 00	250 00			
3/21	J K Tobin							250 00			
3/21	Hackworth & Brunin	Acme #2	100	Yes	No	15½		250 00			
3/31	Bush Voohries Oil Co.	#9	350	Yes	20	10	70 00	250 00			
4/1	McKeon Drilling Co.	Oceanic #3	500	No	No	2½				250 00	
4/1	Bush Voorhies Oil Co.	#10 Brunecke	335	Yes	20	10	70 00	250 00			
4/3	Farrish Watts & Collins Inc.	Chaney #1	200	Yes	No	12½		250 00			
4/9	White Baehr Petroleum Syndicate	#1 Buster Keaton	300	Yes	20	8¼	70 00	250 00			

Exhibit 7.

1923		Well	Cement Used	Plug	Chemical	Casing	Sale Chemical	Plug Cementing	Sales Cement	No Plug Cementing	Sale Plugs
4/18	C & F Drilling Co.	Brooks Miller	100	Yes	20	15½	70 00	250 00			
4/18	G H & L Drilling Co.	3 for 1 Royalties #3	100	Yes	No	12½		250 00			
4/19	Sherman Oil Company	Decker #1	500	Yes	20	8¼	70 00	250 00			
4/26	California Signal Co.	Calif. Signal #3	100	Yes	No	15½		250 00			
5/12	Federal Drilling Co.	Anchor #1	325	No	28		100 00		100 00		
5/4	Five O Oil Syndicate	Turner #1	100	Yes	20	10	70 00	250 00			
5/14	C C Julian & Co.	#12	200	Yes	No	15½		250 00			
5/15	Federal Drilling Co.	Dome #2	300	Yes	20	8¼	60 00	250 00			
5/15	Bellridge Oil Co.	Britsch	150	Yes	20	15½	60 00	250 00			
5/16	C C Julian Co.	Pico	200	Yes	No	15½		250 00			
5/17	Federal Drilling Co.	E G B #1	80	Yes	20	6¼	60 00	250 00			
5/18	M H Whittier Co.	Butler #1	125	Yes	25	6¼	75 00	250 00			
5/22	F. R. B. Oil Co.	Reiber	200	Yes	No	16		250 00			
5/25	Golaspy Drilling Co.	Big 3 & 1	250	Yes	No	8½		250 00			
5/28	McKeon Drilling Co.	Industrial #2	150	Yes	No	15½		250 00			
5/31	C C Julian Co.	Brunson #2	150	Yes	20	6¼	60 00	250 00			
6/1	Calif. Signal #3	#3	350	Yes	20	8¼	60 00	250 00			
6/2	C C Julian	Carter #8	200	Yes	No	10		250 00			
6/4	Federal Drilling Co.	Lone Star	20	Yes	5	4¾	20 00	250 00			
6/7	California Cooperative Syndicate	#1	325	Yes	No	8¼		250 00			
6/8	Bush Voohries Oil Co.	Barnes #1	40	Yes	10	6¼	30 00	250 00			
6/11	C C Julian Oil Co.	#5	250	Yes	20	6½	60 00	250 00			
6/15	W R Ramsay	Coffin #1	150	Yes	20	15½	60 00	250 00			
6/17	Hampton & Lambert	#4	250	Yes	No	8¼		250 00			
6/19	U S Royalties Co.	#8	50	Yes	No	15½		250 00			
6/23	Pugh Miller Drilling Co.	Special Oil #2	250	Yes	No	8¼		250 00			
6/24	Foster Gregg Oil Syndicate	Local #1	125	Yes	No	12½		250 00			
6/25	J Golaspy	Merchants Oil Syndicate	100	Yes	15	6¼	60 00	250 00			
6/26	Federal Drilling Co.	Woolner #1	400	Yes	27½	8¼	110 00	250 00			
6/27	Federal Drilling Co.	Osborne #1	100	Yes	20	6¼	60 00	250 00			
6/27	McKeon Drilling Co.	Breske #4	250	Yes	No	8¼		250 00			
6/29	U S Royalties	#9	100	Yes	No	15½		250 00			
6/27	Davis & McMillan										28 50
6/21	Lambert Oil Co.	#3	100	Yes	No	15½		250 00			
7/1	Klausen & Co.	#2	100	Yes	20	15½	60 00	250 00			
7/4	M & H Oil Co.	#1	350	Yes	No	8¼		250 00			
7/8	Cook Drilling Co.	Pacific States #1	80	Yes	No	15½		250 00			
7/10	Cecelia Petroleum Corp	#1	100	Yes	5	6¼	25 00	250 00			

Exhibit 7.

1923		Well	Cement Used	Plug	Chemical	Casing	Sale Chemical	Plug Cementing	Sales Cement	No Plug Cementing	Sale Plugs
7/10	Bush Voohries Oil Co.	Breske #2	350	Yes	20	10	60 00	250 00			
7/11	Cash Sale				1		5 00				
7/11	U S Royalties	#2	200	Yes	No	12½		250 00			
7/12	Elliott Extension Oil Co.	#1	200	Yes	No	12½		250 00			
7/14	Calif. Well Drilling Co.	#1 Killpatrick #2	100	Yes	No	15½		250 00			
7/14	McKeon Drilling Co.	Crescent #1	250	Yes	20	11	60 00	250 00			
7/15	McKeon Drilling Co.	Monrovia #1	100	Yes	20	6¼	60 00	250 00			
7/17	Farish, Watts & Collins	Swaffield	397	Yes	30	8¼	90 00	250 00			
7/19	Texas Holding Corporation	Miller Garth #3	300	Yes	60	8½	160 00	250 00			
7/20	Davis & McMillan										28 50
7/21	McKeon Drilling Co.	Breske #4	50	Yes	10	6¼	30 00	250 00			
7/21	C C Julian	Baker #6	300	Yes	30	8¼	90 00	250 00			
7/21	Superior Oil Co.	F 1	100	Yes	10	15½	30 00	250 00			
7/22	McKeon Drilling Co.	Breske #6	150	Yes	No	15½		250 00			
7/22	McKeon Drilling Co.	Crescent	250	Yes	20	8¼	60 00	250 00			
7/22	McKeon Drilling Co.	Hamilton #7	50	Yes	10	6¼	30 00	250 00			
7/22	C C Julian	Brunson #12	300	Yes	30	8¼	90 00	250 00			
7/23	McKeon Drilling Co.	Western Seaboard #2	75	Yes	20	8¼	60 00	250 00			
7/23	McKeon Drilling Co.	Pan Helenic #1	400	Yes	20	8¼	60 00	250 00			
7/23	W R Ramsey	#2 B	150	Yes	15	15½	50 00	250 00			
7/23	Superior Oil Co.	Miller #2	130	Yes	10	15½	30 00	250 00			
7/24	Ramsey Oil Co.	2A	150	Yes	20	15½	60 00	250 00			
7/28	Bush Voohries Oil Co.	Barnes #2	350	Yes	20	10	60 00	250 00			
7/28	Federal Drilling Co.	Butler #2	200	Yes	40	12½	110 00	250 00			
7/28	~~Federal~~ U S Royalties	McIntyre #3	200	Yes	No	6⅝		250 00			
7/28	Pugh Miller Drilling Co.	Bay Hills #2	70	Yes	5	6¼	30 00	250 00			
7/29	C C Julian	Mathews #5	10	Yes	5	4½	20 00	250 00			
7/8	California Cooperative Syndicate	#1	30	No	5	2½	25 00			250 00	
7/22	Bush Voohries Oil Co.	Buss #2	70	No	15	4½	50 00			250 00	
7/30	Fremont Oil Syndicate						17 50				
8/2	U S Royalties	McIntyre #2	300	Yes	No	8¼		250 00			
8/3	McKeon Drilling Co.	Peterson #2	150	Yes	No	15½		250 00			
8/4	W R Ramsey	Coffin #1	350	Yes	30	8¼	90 00	250 00			
8/5	Painted Hills Oil Co.	Telegram #4	15	No	5	4	25 00			250 00	
8/6	National Oil Co.	#1	300	Yes	20	8¼	60 00	250 00			
8/6	U S Royalties	#7	50	Yes	No	15½		250 00			
8/7	Cook Drilling Co.	P S #1	100	Yes	No	10		250 00			
8/7	McKeon Drilling Co.	Cost State #2	150	Yes	15	6¼	45 00	250 00			

Exhibit 7.

1923		Well	Cement Used	Plug	Chemical	Casing	Sale Chemical	Plug Cementing	Sales Cement	No Plug Cementing	Sale Plugs
8/8	Stillwell Drilling Co.	Downey Syndicate #1	50	Yes	10	15½	30 00	250 00			
8/10	H & N Oil Co.	H N #9	50	Yes	10	6¼	42 50	250 00			
8/10	U S Royalties	#9	300	Yes	No	10		250 00			
8/14	Elliott Extension Oil Co.	#1	200	Yes	40	8¼	110 00	250 00			
8/15	Farish Watts & Collins	#1	None	None	None					37 50	
8/15	McKeon Drilling Co.	Industrial #12	100	Yes	10	8¼	30 00	250 00			
8/16	Oakridge Oil Co.				30		90 00	250 00			
8/16	Julian Petroleum Corp.	Texacal	100	Yes	No	15½		250 00			
8/16	Federal Drilling Co.	Lightburn	150	Yes	30	8¼	90 00	250 00			
8/17	McKeon Drilling Co.	Breske #5	160	Yes	No	15½		250 00			
8/17	Superior Oil Co.	Osburne #1	150	Yes	10	15½	35 00	250 00			
8/17	Southern Midway	#1	100	Yes	20	15½	60 00	250 00			
8/18	Julian Oil Corporation	Pico	200	Yes	20	10	60 00	250 00			
8/19	Ramsey Oil Co.	A2	250	Yes	25	11	75 00	250 00			
8/20	Pugh Miller Drilling Co.	Special Delivery #1	50	Yes	10	6¼	30 00	250 00			
8/20	Cheney Oil Syndicate	#1	20	No	No	10				300 00	
8/21	Bay Hills Oil & Land Co.	Special Delivery #3	350	Yes	10	15½	30 00	250 00			
8/21	Federal Drilling Co.	Woolner #1	80	Yes	10	6¼	30 00	250 00			
8/23	U S Royalties	#2	100	Yes	No	6¼		250 00			
8/23	McKeon Drilling Co.	Oceanic #3	250	Yes	10	8¼	30 00	250 00			
8/24	U S Royalties	#9	150	Yes	No	10		250 00			
8/26	Golaspy Drilling Co.	Hall Weber #2	250	Yes	20	8¼	60 00	250 00			
8/28	California Signal #3	#3	100	Yes	20	4¾	60 00	250 00			
8/28	Fremont Oil Corporation				2		6 25				
8/29	Cheney Oil Syndicate	Cheney #1	Dump Baler Job		No	10				300 00	
8/30	C C Julian Corp.	Baker #7	300	Yes	20	8¼	60 00	250 00			
9/1	Calif Well Drilling Co.	Cal Coop Syndicate #2	75	Yes	15	6¼	45 00	250 00			
9/3	Pugh Miller	Bay Hills #4	300	Yes	10	15½	30 00	250 00			
9/5	Federal Drilling Co.	Garner 1	200	Yes	20	12½	60 00	250 00			
9/6	Ramsey Oil Co.	2 A	88	No	30	Tubing	70 00			250 00	
9/7	U S Royalties	#7	300	Yes	No	10		250 00			
9/8	Elliott Extension Oil Co.	#1	92	Yes	20	6¼	60 00	250 00			
9/9	Doyle & Cline Oil Co.	Coon #2	100	Yes	10	15½	30 00	250 00			
9/5	Calif. Drilling Co.	C R J #1	200	Yes	No	15½		250 00			
9/11	Klausen & Co	Top Notch #1	300	Yes	25	8¼	75 00	250 00			
9/12	C C Julian Co.	Brunson #12	75	Yes	15	6¼	45 00	250 00			
9/12	Centinel Oil Co.	Joughlin #1	150	Yes	20	15½	60 00	250 00			
9/12	R E Ibbetson Oil Co.	Malthy Ibbetson #1	40	No	10	Tubing	30 00			250 00	
9/12	Mack Oil Co.	Mack #1	50	Yes	10	4¾	30 00	250 00			
9/9	Federal Drilling Co.	Garner #1	56	No	10	12½	30 00			100 00	
9/12	H N Oil Co						12 50				
9/13	Ramsey Oil Co.	2 A	150	Yes	30	11	90 00	250 00			

Exhibit 7.

1923		Well	Cement Used	Plug	Chemical	Casing	Sale Chemical	Plug Cementing	Sale Cement	No Plug Cementing	Sale Plugs
9/15	Oakridge Oil Co.	Ross #1	200	Yes	40	6¼	110 00	250 00			
9/14	Calif. Drilling Co.	Coon Refining Co. #1	600	Yes	None	8¼		250 00			
9/17	Calif. Drilling Co.	Burbank #1	300	Yes	None	15½		250 00			
9/19	Julian Petroleum Corp.	Texacal #3	300	Yes	20	10	60 00	250 00			
9/19	Ramsey Oil Company	2A	50	No	10	Tubing	30 00			250 00	
9/22	Pugh Miller			No	No	Circulating				45 00	
9/25	North American Oil Cans	#1	200	Yes	No	15½		250 00			
9/26	Pugh Miller Drilling Co.	Pantagoue #1	250	Yes	No	8¼		250 00			
9/27	Bush Voohries Oil Co.				2½		12 50				
9/27	Fred Ruthven	#1	100	Yes	10	6¼	30 00	250 00			
9/28	Federal Drilling Co.	Heyman #1	200	Yes	20	12½	60 00	250 00			
9/29	Pugh Miller Drilling Co.	Welton 3 B	250	Yes	No	8½		250 00			
9/30	North American Cans	#3	150	Yes	No	15½		250 00			
9/2	McKeon Drilling Co.	Cooperative Town City #1	200	No	40	Drill Pipe	110 00			250 00	
9/2	McKeon Drilling Co.	May Richards 1 A	50	No	10	24	30 00			250 00	
9/7	McKeon Drilling Co.	U S #2	200	Yes	20	8¼	60 00	250 00			
9/8	McKeon Drilling Co.	Industrial	100	No	No	Drill Pipe				250 00	
9/8	McKeon Drilling Co.	Huddleston #3	50	No	10	Drill Pipe	30 00			250 00	
9/12	McKeon Drilling Co.	Snaholene #1	150	Yes	20	15½	60 00	250 00			
9/25	McKeon Drilling Co.	Coop 1 A	140	No	30	Drill Pipe	90 00			250 00	
9/26	McKeon Drilling Co.	Crescent #1	100	Yes	20	4¾	60 00	250 00			
9/27	McKeon Drilling Co.	May Richards #1 A	250	Yes	45	12½	135 00	250 00			
9/22	Doyle Cline				2½		12 50				
9/19	McKeon Drilling Co.				2½		12 50				
9/15	Pugh Miller Drilling Co.				No					82 50	
9/14	Pugh Miller Drilling Co.				No					45 00	
9/16	Bush Voohries Oil Co.				2½		12 50				
10/1	Federal Drilling Co.	#1	175	No	40	12½	110 00			100 00	
10/2	So. Midway Oil Co.	#1	500	Yes	20	10	60 00	250 00			
10/3	Bay Hills Oil & Land Co.	Special Delivery #3	250	Yes	10	8¼	30 00	250 00			
10/4	McKeon Drilling Co.	Breske #5	250	Yes	20	8¼	60 00	250 00			
10/5	U. S. Royalties	#14	150	Yes	No	15½		250 00			
10/5	C C Julian	Mathews #5	20	Yes	5	4¼	15 00	250 00			
10/6	Julian Petroleum Corporation	Sharplitz #1	200	Yes	20	15½	60 00	250 00			
10/6	Consolidated Mutual Oil Co.	#2	200	Yes	No	15½		250 00			
10/7	H & N Petroleum Corp.	#2 West Continental	130	Yes	30	4¾	90 00	250 00			
10/8	Pugh Miller Drilling Co.	Bay Hills #1	No	No	No					93 75	
10/8	Oregon Calif. Oil Syndicate	#1 McDonald	60	Yes	No	8¼		250 00			

Exhibit 7.

1923		Well	Cement Used	Plug	Chemical	Casing	Sale Chemical	Plug Cementing	Sale Cement	No Plug Cementing	Sale Plugs
10/9	Bell Ridge Oil Co.	White #1	150	Yes	30	15½	90 00	250 00			
10/10	Federal Drilling Co.	Lighburn #1	139	Yes	40	4¾	48 75	250 00			
10/10	McKeon Drilling Co.	Breske #5	250	Yes	20	8¼	60 00	250 00			
10/12	Calif. Drilling Co.	Bonded Syndicate #1	200	Yes	No	12½		250 00			
10/12	U S Royalties	#11	75	No.	No	16				250 00	
10/12	Doyle Cline Oil Co.	#2	250	Yes	45	11	140 00	250 00			
10/14	Consolidated Mutual Oil Co.	Oakley #1	200	Yes	No	15½		250 00			
10/15	California Drilling Co.	L B Petroleum Syndicate #1	450	Yes	No	8¼		250 00			
10/15	McKeon Drilling Co.	May Richards #1	250	No	45	12½	135 00			250 00	
10/16	Consolidated Mutual Oil Co.	#4	200	Yes	No	15½		250 00			
10/16	Federal Drilling Co.	Garner #1	400	Yes	70	8¼	210 00	250 00			
10/18	C C Julian	Brunson #12	8	Yes	No	4½		250 00			
10/19	McKeon Drilling Co.	Peterson #2	100	Yes	20	6¼	60 00	250 00			
10/22	Bush Drilling Co.	Buss #1	100	Yes	No	15½		250 00			
10/22	Federal Drilling Co.	Hoyck #1	100	Yes	20	12½	60 00	250 00			
10/23	U S Royalties	#18	100	Yes	No	15½		250 00			
10/26	Cheney Oil Co.	Circulating								75 00	
10/26	Empire Drilling Co.	Nugent #1	300	Yes	No	10		250 00			
10/26	Rogers & Edwards	Northwestern Div Co. #1	300	Yes	20	15½	60 00	250 00			
10/26	G S & M Drilling Co.	Black Gold #1	400	Yes	35	8½	110 00	250 00			
10/28	Universal Cans Oil Co.	Moore #2	100	Yes	10	15½	30 00	250 00			
10/29	Pugh Miller Drilling Co.	Circulating								37 50	
10/30	Ring Petroleum Corp	#1	75	Yes	No	15½		250 00			
10/30	C C Julian Petroleum Co.	Miller #3	100	Yes	5	15½	1500	250 00			
10/31	Pugh Miller Drilling Co.	Big Bear #1	300	Yes	No			250 00			
10/10	California Signal	Plug									25 00
11/5	Rogers & Edwards	Circulating								37 50	
11/1	Julian Petroleum Corporation	#11	125	Yes	10	6¼	30 00	250 00			
11/1	Universal Cans Oil Co.	Moore #1	300	Yes	No	8¼		250 00			
11/1	Cook Drilling Co.	#1	300	Yes	30	8¼	90 00	250 00			
11/2	California Well Drilling Co.	Lomita Petroleum #1	100	Yes	No	15½		250 00			
11/2	Federal Drilling Co.	Heyman #1	450	Yes	76	8¼	235 00	250 00			
11/2	Keefe Risdner Oil Co.	Carter #1	100	Yes	10	15¼	30 00	250 00			
11/3	Balan McNeece	#1	400	Yes	20	8¼	60 00	250 00			
11/4	U S Royalties	Hub #15	100	Yes	No	16		250 00			
11/4	Bush Drilling Co.	Security #2 Well 1	50	Yes	No	Open Hole			——	250 00	
11/4	Groupe #16	Transport 4	50	No	10	3	30 00	250 00			
11/5	R E Ibbetson	#2	50	Yes	10	10	30 00			250 00	

Exhibit 7.

1923		Well	Cement Used	Plug	Chemical	Casing	Sale Chemical	Plug Cementing	Sale Dement	No Plug Cementing	Sale Plugs
11/6	Universal Cans Oil Co.	#5	100	Yes	10	15½	30 00	250 00			
11/8	Bush Voohries	Barnes #2	125	No	5	6¼	15 00			250 00	
11/8	Fisher Gregg Co.	#1	100	Yes	10	12½	30 00	250 00			
11/10	Bush Voohries			No	2½		12 50				
11/8	Universal Can Oil Co.	#5	100	Yes	10	15½	30 00	250 00			
11/8	Star Petroleum Corp.	B & R #1	100	Yes	No	12½		250 00			
11/10	C C Julian	Cook #2	100	Yes	10	15½	30 00	250 00			
11/10	Universal Cans Oil Co.	Moore #6	100	Yes	10	15½	30 00	250 00			
11/11	Sherman Oil Co.	#1	150	Yes	10	15½	30 00	250 00			
11/11	Bush Drilling Co.	Abercombie #1	55	Yes	10	Drill Pipe 8¼	30 00			250 00	
11/18	U S Royalties	#10	300	Yes	No	10				250 00	
11/13	C C Julian	Bell Johnson #4	100	Yes	10	15½	30 00	250 00			
11/14	H. Freacher	Cash Sale		No	1		2 50				
11/14	U S Royalties	#16	100	Yes	No	16		250 00			
11/16	McKeon Drilling Co.	Cash Sale		No	2½		12 50				
11/16	Speed & Service Truck Co.	" "		No	1		2 50				
11/16	Fremont Oil Corporation	" "		No	2½		12 50				
11/16	Bush Drilling Corp.	McDonald #2	250	Yes	10	12½	30 00	250 00			
11/16	C C Julian Petroleum Corp.	Pico	380	Yes	70	8¼	210 00	250 00			
11/17	Universal Cans Oil Co.	#4	100	Yes	10	15½	30 00	250 00			
11/18	Consolidated Mutual Oil Co.	#3	400	Yes	No	10		250 00			
11/18	McKeon Drilling Co.	Cash Sale		No	2½		12 50				
11/18	A L Cheney	" "		No	2½		12 50				
11/18	Federal Drilling Co.	Higman #2	200	Yes	20	12½	60 00	250 00			
11/14	H C S Oil Co.	#1	50	Yes	No	12½		250 00			
11/19	C C Julian	Texacal #3	10	Yes	5	6¼	10 00	250 00			
11/19	Bush Drilling Co.	McDonald #1	300	Yes	64	8¼	160 00	250 00			
11/19	Consolidated Mutual	#1	400	Yes	No	10		250 00			
11/19	Universal Cans Oil Co.	Jones #1	100	Yes	10	15½	30 00	250 00			
11/20	Doyle Cline Oil Co.	#2	250	Yes	54	8¼	135 00	250 00			
11/20	Federal Drilling Co.	Hoyck #1	400	Yes	70	8¼	210 00	250 00			
11/20	U S Royalties	#7	250	Yes	No	6⅜		250 00			
11/2	H & N Oil Co.	Cash Sale			1		2 50				
11/21	Sentinel Oil Co.	Goughn #1	450	Yes	34	10	85 00	250 00			
11/21	McKeon Drilling Co.	Monrovia #2	150	Yes	20	11	60 00	250 00			
11/21	So. Calif. Drilling Co.	Hugh #1	500	Yes	No	8¼		250 00			
11/21	U S Royalties	#10	300	Yes	No	10		250 00			
11/21	International Drilling Co.	McCormick #1	100	Yes	5	15½	15 00	250 00			
11/23	Bolan & McNeece	#1	150	No	34	8¼	85 00			250 00	
11/22	Bellridge Oil Co.	Emma White #1	300	Yes	28½	8¼	71 25	250 00			
11/25	White Star Refining Co.	Whitney #1	450	Yes	No	10		250 00			

Exhibit 7.

1923		Well	Cement Used	Plug	Chemical	Casing	Sale Chemical	Plug Cementing	Sales Cement	No Plug Cementing	Sale Plugs
12/14	Star Petroleum Co.	B & R #1	350	Yes	15	8¼	45 00	250 00			
12/13	Universal Cans Oil Co.	Moore #6	300	Yes	20	8¼	60 00	250 00			
12/14	Federal Drilling Co.	Heyman #2	400	Yes	52½	8¼	130 00	250 00			
12/14	Keystone Oil Syndicate	Keystone #1	330	Yes	55	8¼	165 00	250 00			
12/15	Elliott Exit Oil Co.	#1	200	Yes	40	10	105 00	250 00			
12/15	Universal Cans Oil Co.	Moore #8	100	Yes	10	15½	30 00	250 00			
12/16	Julian Petroleum Corp.	Miller #3	300	Yes	20	10	60 00	250 00			
12/17	Bartholomae Oil Corp.	#4	450	Yes	20	8¼	60 00	250 00			
12/18	Bush & Voohries	#1	250	Yes	20	8¼	60 00	250 00			
12/20	International Drill Eng Co.	Wernich #1	350	Yes	20	8¼	60 00	250 00			
12/20	Hub Oil Co.	Beck #2	250	Yes	20	6¼	60 00	250 00			
	Hub Oil Co.	Hakler #1	300	Yes	20	8¼	60 00	250 00			
	Cook Drilling Co.	#2	300	Yes	20	6¼	60 00	250 00			
12/21	Pugh Miller	Beaver State #1	250	Yes	20	8¼	60 00	250 00			
12/21	Cans Mutual Oil Co.	Oakley #1	400	Yes	No	10		250 00			
12/22	Universal Cans Oil Co.	Jones #1	300	Yes	No	8¼		250 00			
12/22	Universal Cans Oil Co.	Moore #4	300	Yes	20	8¼	60 00	250 00			
12/22	A G Bartlett	M K S #1	350	Yes	No	8¼		250 00			
12/23	Doruth Oil & Investment Co.	#1 Doruth	100	Yes	20	12½	60 00	250 00			
12/23	R E Ibbetson Oil Co.	Maltby #2	75	No	15	Liner 6¼	45 00			250 00	
12/24	Hub Oil Co.	C & B #1	20	Yes	5	8¼	15 00	250 00			
	California Drilling Co.	L B Petroleum Syndicate	16	No	5	Dump bailer 8¼	15 00			250 00	
12/26	Pugh Miller Dr Co.	Big Bear #1	50	Yes	10	4½	30 00	250 00			
12/27	Sherman Oil Co.	#1	300	Yes	20	10	60 00	250 00			
12/25	Fremont Oil Syndicate			No	7	Cash Sale	17 50				
12/28	Meserve Knight & Moran	#1	85	Yes	15	6¼	45 00	250 00			
12/29	Universal Cans Oil Co.	Moore #7	300	Yes	20	8¼	60 00	250 00			
12/29	Julian Petroleum Corp.	Johnson #4	300	Yes	20	10	60 00	250 00			
12/29	" " "	Cook & 1	300	Yes	20	10	60 00	250 00			
12/30	Calif. Drilling Corp.	Black Diamond #1	300	Yes	20	8¼	60 00	250 00			
	Bush Drill Co.	Sec. Oil Syndicate #2	100	Yes	20	Wet no charge	60 00				
12/14	Chemical						12 50				
12/22	R E Ibbetson					Circulating				165 00	
1924											
1/7	Fremont Oil Corp.	Cash Sale					46 20				
1/11	Cash Sale	Cement								1 75	
1/25	Fremont Oil Syndicate						15 00				
1/17	H Fisher Oil Co.						11 25				
1/15	Bush Voohries Oil Co.									62 50	

Exhibit 7.

1924			Cement Used	Plug	Chemical	Casing	Sale Chemical	Plug Cementing	Sales Cement	No Plug Cementing	Sale Plugs
1/6	Bush Dr Co.	Beaver State #2	300	Yes	58	8¼	145 00	250 00			
1/5	Meserve Knight & Fife						71 25				
1/4	Bush Voohries Oil Co.						17 50				
1/1	Empire Drilling Co.	Arline #1	345	Yes	No	8¼		250 00			
1/1	McDonald Corporation	McDonald #2	300	Yes	60	8¼	145 00	250 00			
1/2	Ring Petroleum Corporation	#2	75	Yes	15	15½	45 00	250 00			
1/1	McDonald Corporation	McDonald #1	100	Yes	20	12½	60 00	250 00			
1/3	Burbank Oil Corporation	Keitner #1	600	Yes	no	8¼		250 00			
1/4	Keystone Oil Company	#1	16	No	8	Dump Bailer	20 00			250 00	
1/5	May Richards Oil Company	Hope Oil Co. #1	125	Yes	20	8¼	60 00	250 00			
1/5	Liberty Oil Company	Optic #1	35	No	10	Drill Pipe	30 00			250 00	
1/6	Hub Oil Company	C B #2	500	Yes	49	8¼	122 00	250 00			
1/7	Pugh Miller Drilling Co.			No			60 00			250 00	
1/8	Native Petroleum Corp.	Bailey #1	100	No	20	12½	60 00			250 00	
1/9	R E Ebbetson Oil Co.	Malthy #2	120	No	25	6¼	75 00			250 00	
1/10	Sentinel Oil Co.	Joughlin #2	200	Yes	20	12½	60 00	250 00			
1/11	McKeon Drilling Co.	Lyman #1	250	Yes	30	10	60 00	250 00			
1/24	International Drilling & Eng Co.	Wenrich #2	75	Yes	No	15½		250 00			
1/11	International Drilling & Eng. Co.	West Coast #1	50	No	No		Drill Pipe			250 00	
1/11	California Drilling Co.	Bonded #1	325	Yes	30	6¼	60 00	250 00			
1/11	Southland Petroleum Corp.	#5	100	Yes	No	15½		250 00			
1/12	Kussey & Bailes	Rhodes #1	350	Yes	30	8¼	60 00	250 00			
1/12	Universal Cans Oil Co.	Moore #8	300	Yes	30	8¼	60 00	250 00			
1/12	James F. Miguth Oil Co.	#1	300	Yes	30	8¼	60 00	250 00			
1/13	Pugh Miller Drilling Co.	Pentagon #1	25	No	No	Dump Bailor				200 00	
1/15	Bush Voohries Oil Co.	Schiber #1	40	Yes	30	12½	60 00	250 00			
1/16	M H Whittier Co.	Whittier #1	20	Yes	6	4½	12 00	250 00			
1/17	A J Graham	#1	300	Yes	No	8¼		250 00			
1/18	Elliott Cans Oil Co.	Clark #1	350	Yes	82½	6¼	165 00	250 00			
1/20	Doruth Oil & Invest Co.	#1	400	Yes	30	8¼	60 00	250 00			
1/23	Universal Cans Oil Co.	Jones #2	100	Yes	15	15½	30 00	250 00			
1/21	United States Royalties Co.	#8	250	Yes	No	6⅝		250 00			
1/23	Federal Drilling Co.	Woolner #1	400	Yes	92½	8¼	185 00	250 00			
1/24	U S Royalties Co.	#20	175	Yes	22½	12½	45 00	250 00			
1/25	B Geldnir	#1	100	Yes	15	15½	30 00	250 00			
1/24	Empire Drilling Co.	Gladys #2	150	Yes	30	10	60 00	250 00			
1/26	U S Royalties Co.	#22	175	Yes	22½	13	45 00	250 00			
1/28	Doyle Cline Oil Co.	Cooperative #2	50	Yes	15	6¼	30 00	250 00			
1/28	Bush Voohries Oil Co.	Washburn #1	300	Yes	30	10	60 00	250 00			
1/29	Keefe Resdin Oil Co.	Carls #2	100	Yes	15	15½	30 00	250 00			
1/30	Hub Oil Co.	Stiz #2	300	Yes	30	8¼	82 50	250 00			

Exhibit 7.

1924		Well	Cement Used	Plug	Chemical	Casing	Sale Chemical	Plug Cementing	Sales Cement	No Plug Cementing	Sale Plugs
1/31	Meserve Knight & Fife	#1	20	Yes	4	4¾	12 00	250 00			
2/12	Universal Cans Oil Co.						8 75				
2/9	Bush Voohries Oil Co.								375 00		
2/7	Universal Cans Oil Co.						8 75				
2/5	Bush Voohries Oil Co.						8 75		60 00		
2/4	Bush Voohries Oil Co.						8 75		30 00		
2/2	Bush Voohries Oil Co.						8 75		30 00		
2/1	Empire Drilling Co.	Gladys #2	100	Yes	30	8¼	60 00	250 00			
2/2	Southern Calif. Drilling Co.	Coombs #1	400	Yes	52½	8¼	105 00	250 00			
2/4	Pugh Miller	Bear State #3	75	No	15	15½	45 00			250 00	
2/3	Rogers & Edwards	Equitable #1	200	Yes	No	12½		250 00			
2/7	So. Calif. Dr. Co.	Hadley #1	100	Yes	30	12½	60 00	250 00			
2/8	R E Ibbetson Oil Co.	Smith #1	300	Yes	52½	15½	105 00	250 00			
2/8	U S Royalties Co.	#21	250	Yes	35½	8¼	71 25	250 00			
2/10	Bush Voohries Oil Co.	Schreiber #1	250	Yes	30	8¼	60 00	250 00			
2/12	Sentinal Oil Co.	#3	175	Yes	30	12½	60 00	250 00			
2/14	Ring Petroleum Co.	#2	350	Yes	82½	10	165 00	250 00			
2/14	Fisher Gregg Co.	Cooperative #1	100	Yes	15	12½	30 00	250 00			
2/16	Native Petroleum Co.	Bailey #1	350	Yes	82½	8¼	165 00	250 00			
2/17	Universal Cans Oil Co.	J #2	300	Yes	30	8¼	60 00	250 00			
2/18	Monrovia Oil Co.	Mitchell Corbin #1	150	Yes	30	8¼	60 00	250 00			
2/18	Sentinel Oil Co.	Monrovia #2	150	Yes	41½	8⅝	82 50	250 00			
2/20	Adolph Rainch Inc.	Stockwich #1	300	Yes	22½	6¼	45 00	250 00			
2/21	Hub Oil Co.	Joughlin #2	300	Yes	41½	8¼	82 50	250 00			
2/24	McKeon Drilling Co.	Lomita #1	200	Yes	30	8¼	60 00	250 00			
2/25	U S Royalties Co.	#20	300	Yes	30	8¼	60 00	250 00			
2/26	International Dr & Eng Co.	Wernich #2	350	Yes	30	10	60 00	250 00			
2/26	So. Slope Oil Co.						7 50				
2/28	B. Gilner	#1	350	Yes	30	8¼	60 00	250 00			
2/29	Santa Slope Oil Co.	Angelus #3	200	Yes	30	6¼	60 00	250 00			
3/1	U S Royalties Co.	#22	300	Yes	30	8¼	60 00	250 00			
3/1	Bush Drilling Co.	Wright #2	300	Yes	72½	6¼	145 00	250 00			
3/2	Jno H McNeece	#1	25	No	5	Drill Pipe	15 00			200 00	
3/2	Calif. Drilling Co.	L B #1	60	Yes	18	4¾	36 00	250 00			
3/2	Bush Voohries Oil Co.	Fee #1	250	Yes	30	10	60 00	250 00			
3/3	Bellridge Oil Co.	Britsch #1	500	Yes	45	8¼	105 00	250 00			
3/4	Geo. F. Gitty	#17	300	Yes	20	8¼	40 00	250 00			
3/6	Keefe Resdin Oil Co.	Carl #2	350	Yes	30	8¼	60 00	250 00			
3/10	Bush Voohries OIL Co.	Washburn #1	55	No	11	8¼	33 00			250 00	
3/17	Calif. Dr. Co.	M & M #1	400	No	30	8¼	60 00			250 00	

Exhibit 7

1924		Well	Cement Used	Plug	Chemical	Casing	Sale Chemical	Plug Cementing	Sales Cement	No Plug Cementing	Sale Plugs
3/19	Mutual Drilling Corp.	Wilshire #1	50	No	No	15½				250 00	
3/19	McKeon Drilling Co.	Monrovia #2	75	No	15	6¼	45 00			250 00	
3/19	West Coast Crude Oil Co.	#2	200	No	30	6¼	60 00			250 00	
3/21	Huntington Downey Oil Co.	#2	150	No	No	8¼				250 00	
3/28	Vosburgh Oil Co.	Angelus #1	150	No	41½	15½	82 50			250 00	
3/11	So. Slope Oil Co.						12 50				
3/23	Calif Dr. Co.										28 50
3/26	Bush Voohries Oil Co.						8 75				
3/29	" " " "						8 75				
3/4	Rogers & Edwards	Equity #1	150	No	30	8¼	60 00				
3/9	" "	#46	125	No	15	12½	30 00				
3/10	" "	Delano #11	200	No	15	15½	30 00				
3/13	" "	C C M O & 55	125	No	15	12½	30 00				
4/8	Bush Voohries Oil Co.						8 75				
4/20	So. Slope Oil Co.						7 50				
4/22	Fremont Oil Syndicate						12 50				
4/6	McKeon Drilling Co.	#3	250	No	30	8¼	60 00			250 00	
4/12	" " "						12 50				
4/21	" " "						12 50				
4/12	R E Ibbetson Oil Co.		350	No	44	8¼	88 50			250 00	
4/4	Bean State & 3	#3	250	No	30	8¼	60 00			250 00	
4/10	Bellridge Oil Co.	Britsch	120	No	No	6¼				250 00	
4/16	Pugh Miller Dr Co.									52 50	
4/28	Pugh Miller Dr Co.									75 00	
4/30	Pugh Miller Dr Co.									75 00	
4/13	Gross Drilling Co.	#17 U S Roy	400	No	30	8¼	60 00			250 00	
4/30	Gross Drilling Co.	#1		No	45		90 00			250 00	
5/11	O M Radeck	#1	25	No	5	4¾	15 00			250 00	
5/15	Oceanic Oil Co.	Ashlniece #3	45	No	15	6¼	30 00			250 00	
5/27	Bruner Marble & Tele Co.	Time Johnson #1	115	No	5	Drill Pipe	15 00			250 00	
5/22	McKeon Drilling Co.	#4	250	No	30	8¼	60 00			250 00	
5/15	McKeon Drilling Co.						12 50				
5/4	R E Ibbetson					Circulating				33 75	
5/5	" "						30 00				
5/22	" "			No			45 00			250 00	
5/5	Pugh Miller					Circulating				100 00	
5/16	Adolph Ranush										28 50
5/20	Calif. Dr. Co.										33 25
5/29	Cooper Petroleum Co.										29 45
5/30	So. Slope Oil Co.						25 00				

Exhibit 7.

1924	Well	Cement Used	Plug	Chemical	Casing	Sale Chemical	Plug Cementing	Sale Cement	No Plug Cementing	Sale Plugs
5/6	Pan American Petroleum									19 00
6/12	Fremont Oil Corp.					15 00			50 00	22 80
6/16	Hawkeye #1				Circulating				37 50	
6/21	"				"				165 00	
6/25	"				"				60 00	
6/16	Farish, Wats & Collin				"				150 00	
6/21	D & H Oil Co.					12 50				
6/27	Fremont Oil Co.					12 50				
6/12	Huntington Northern					31 75				
6/14	Cash Sale					19 00				
7/7	Barthlonew Oil Company									19 00
7/7	Fremont Oil Corp.					12 50				19 00
7/17	Fremont Oil Corp.					2 50				3 80
7/1	Harmony Dobyes Syndicate					15 00			250 00	
7/14	So. Slope Oil Co.					25 00				
7/22	Gross Drilling Co.					15 00			250 00	
7/23	Keck Syndicate									29 45
7/28	Calif. Oil Well Cementing Co.					15 00				
7/31	Harmony Dobyes Syndicate					15 00			250 00	
8/3	California Drilling Co.									33 25
8/5	Fremont Oil Co.					2 50				
8/7	Fremont Oil Co.					2 50				
8/11	Fremont Oil Co.					10 00				
8/8	Fremont Oil Co.					3 75				
8/28	Fremont Oil Co.					3 75				
8/29	D & H Oil Syndicate								250 00	
8/21	Calif C W Cementing Co.					15 00			15 00	
8/1	Five O Drilling Co					60 00			250 00	
8/2	Cash Sale					5 00				
8/21	Cash Sale					75				
9/10	Cash Sale					10 00				
9/11	Huntington Northern					31 75			31 75	
	Sales Chemicals					18 669 95				
	Sales Cementing with Plugs						~~8025 00~~ 80,250.00			
	Sales Cement							850 00		
	Sales Cementing without Plugs								16 964 25	
	Sales Plugs									348 00

Gross Sales all Sources	117,082 20	Error corrected by testimony of witness Miller May 29.
Wells Cemented with Plugs	321	
Wells Cemented without Plugs and Circulating	82	
Plugs Sold	13	

[Endorsed]: Filed Dec. 20, 1928. R. S. Zimmerman, Clerk, by Edmund L. Smith, Deputy Clerk.

[TITLE OF COURT AND CAUSE.]

EXCEPTIONS TO THE SPECIAL MASTER'S REPORT

Now comes the above mentioned Defendants, and file the following as their exceptions to the Special Master's Report filed December 19, 1928.

I.

Defendants except to the finding in Paragraph III of said Report to the effect that Fifty Dollars ($50.00) was a reasonable royalty for the use of said process, and that Defendants as said co-partnership or otherwise cemented three hundred twenty-five (325) wells using any process which infringed said Letters Patent.

II.

Defendants except to the failure of the Special Master to find that no amount of reasonable royalty had been established by the evidence, and that judgment should be for nominal damages.

III.

Defendants except to the failure of the Special Master to find that the amount paid by Plaintiff's License in the mid-continent field as a royalty for the use of said process, namely, Twenty-five Dollars ($25.00) per well was an excessive amount and was consideration only for the name of "Perkins" in connection with oil well cementing, and that this is not an unfair competition case and no exclusive right was shown or was proper to be shown in the name "Perkins" as applied to oil well cementing.

WESTALL AND WALLACE,

By Joseph F Westall

Attorneys for Defendants.

[Endorsed]: Received copy of the within Exceptions this 8th day of January 1929 Lyon & Lyon Henry S Richmond, Attorneys for Plaintiff. Filed Jan 8 1929 R. S. Zimmerman, Clerk By Edmund L. Smith Deputy Clerk

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At a stated term, to wit: The JANUARY Term, A. D. 1929 of the District Court of the United States of America, within and for the Southern Division of the Southern District of California, held at the Court Room thereof, in the City of Los Angeles, on Monday the 14th day of January, in the year of our Lord one thousand nine hundred and twenty-nine.

Present:

The Honorable PAUL J. MC CORMICK, District Judge.

Perkins Oil Well Cementing Co., Plaintiff,	)	
	)	No. G-114-T Eq.
vs.	)	
J. M. Owen and J. L. Boles, Defendants.	)	

This cause coming on at this time for confirmation of the Report of the Special Master, Henry S. Richmond, Esq., appearing as counsel for the plaintiff, moves that Exceptions be overruled and that decree be entered confirming said Report; whereupon it is by the Court ordered that Exceptions to the Report of the Special Master herein are disallowed, and that the said Report of the Special Master is hereby confirmed, and that a decree be prepared and entered in accordance therewith.

[TITLE OF COURT AND CAUSE.]

FINAL DECREE

This cause having come on to be heard upon the report of David B. Head, Esq., as Special Master, to whom it was referred to take, state and report an account of damages and profits in accordance with the interlocutory decree herein, which report is dated the 20th day of December, 1928, and also upon exceptions taken to the said report on the part of the defendants, and the said cause having been argued by counsel for the respective parties and due deliberation had thereon,

IT IS ORDERED, ADJUDGED AND DECREED that the said defendants pay to the said plaintiff the sum of Sixteen Thousand Two Hundred and Fifty ($16,-250.00) Dollars which is the amount found by the Special Master as stated in his report above referred to to be due from the defendants to the plaintiff.

IT IS FURTHER ORDERED, ADJUDGED AND DECREED that the said defendants pay to the said plaintiff the sum of One hundred seventy and 60/100 Dollars ($170.60), their costs in said suit (to be taxed by the clerk), and that said plaintiff have execution for such costs and for the sums above decreed to be paid to said plaintiff.

Dated: January 17th, 1929.

Paul McCormick
U. S. District Judge

Approved as to form:
Westall & Wallace
Attorneys for Defendants

Docketed 1/17/29
Decree entered and recorded 1/17/29
R S Zimmerman Clerk
By Louis J. Somers Deputy Clerk

[Endorsed]: Filed Jan 17 1929 R. S. Zimmerman, Clerk By Louis J. Somers Deputy Clerk

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[TITLE OF COURT AND CAUSE.]

PETITION FOR APPEAL

To the HONORABLE PAUL J. McCORMICK, United States District Judge:

The above named defendant, J. M. Owen, feeling aggrieved by the decree rendered and entered in the above entitled cause on the 17th day of January, 1929, does hereby appeal from said decree to the United States Circuit Court of Appeals for the Ninth Circuit, for the reasons set forth in the assignment of errors filed herewith and he prays that his appeal be allowed and that citation be issued as provided by law, and that a transcript of the record, proceedings, and papers and documents upon which said decree was based, duly authenticated be sent to the United States Circuit Court of Appeals for the Ninth Circuit under the Rules of such court in such cases made and provided; and your petitioner further prays that the proper order relating to the security to be required of him be made, as both supersedeas and appeal bond.

WESTALL AND WALLACE,
By Joseph F Westall
Solicitors and of counsel for Defendants.

[Endorsed]: Filed Jan 23 1929 R. S. Zimmerman, R. S. Zimmerman, Clerk.

[TITLE OF COURT AND CAUSE.]

ASSIGNMENTS OF ERROR

Now comes the above named defendant, J. M. Owen, and files the following assignments of error upon which he will rely upon his prosecution of the appeal in the above-entitled cause, from the final decree entered by this honorable court on the 17th day of January, 1929.

The United States District Court for the Southern Division of the Southern District of California erred in entering the above mentioned final decree and in the proceedings in said cause prior thereto,—

I TO LVIII INCLUSIVE.

Defendant repeats each of the assignments of error set forth in those filed and relied upon in his appeal from the interlocutory decree entered by this court in the above entitled cause on the 23rd day of January, 1928, which assignments were filed with the Clerk of said court February 16, 1928, to the same extent and in the same manner as if the same were here repeated and specifically numbered as in said aforementioned assignments.

LIX.

In overruling the exceptions and each of them to the Master's report on accounting filed in said court, and in confirming said report.

LX.

In ordering, adjudging, and decreeing that said defendants pay to said plaintiff the sum of Sixteen Thousand Two Hundred Fifty ($16,250.00) Dollars or any part thereof.

LXI.

In ordering, adjudging and decreeing that defendants pay to plaintiff costs of said suit.

LXII.

In failing to find that the amount per well found by the Master to be a proper basis for recovery, namely, Fifty ($50.00) Dollars per well was excessive.

LXIII.

In failing to find that Twenty-five ($25.00) Dollars per well would have been a fair amount as a basis for recovery on the assumption that the patent was entitled to be sustained with the scope found in the interlocutory decree.

LXIV.

In not finding and decreeing that plaintiff was entitled to only the recovery of nominal damages.

LXV.

In finding and decreeing that plaintiff was entitled to recovery of costs.

WHEREFORE the appellant prays that said decree be reversed and that said District Court for the Southern District of California, Southern Division, be ordered to enter a decree reversing the decision of the lower court in said cause, and dismissing the Bill of Complaint at the costs of plaintiff.

WESTALL AND WALLACE,

By Joseph F Westall

Attorneys for Appellant.

[Endorsed]: Filed Jan 23 1929 R. S. Zimmerman, R. S. Zimmerman, Clerk.

[TITLE OF COURT AND CAUSE.]

ORDER ALLOWING APPEAL AND FOR SUPERSEDEAS

On motion of Joseph F. Westall, Esq., of the firm of WESTALL AND WALLACE, solicitors and of counsel for defendants, it is hereby ordered that an appeal to the United States Circuit Court of Appeals for the Ninth Circuit from the final decree heretofore on the 17th day of January, 1929, filed and entered herein be, and the same is hereby allowed, and that a certified transcript of the record, testimony, exhibits, stipulations, and all proceedings be forthwith transmitted to said United States Circuit Court of Appeals for the Ninth Circuit. It is further ordered that the same shall operate as a supersedeas upon the filing of a bond to be approved by the Court as bond on appeal and supersedeas bond in the penal sum of Seventeen Thousand Eight Hundred Fifty-three ($17,853.00) Dollars, as provided by law; and the Clerk of this court is hereby directed to stay the issuance of execution on said decree until the further order of this court.

Dated this 23rd day of January, 1929.

Paul J. McCormick
United States District Judge.

[Endorsed]: Filed Jan 23 1929 R. S. Zimmerman, Clerk By Edmund L. Smith Deputy Clerk

[TITLE OF COURT AND CAUSE.]

BOND ON APPEAL AND FOR SUPER SEDEAS

KNOW ALL MEN BY THESE PRESENTS

That we, J. M. OWEN, as principal and John McKeon, S. L. Pugh, as sureties, are held and firmly bound unto Perkins Oil Well Cementing Company, a corporation, in the full and just sum of Seventeen Thousand Eight Hundred Fifty-three ($17,853.00) Dollars, to be paid to the said Perkins Oil Well Cementing Company, a corporation, its certain attorneys, executors, administrators or assigns; to which payment, well and truly to be made, we bind ourselves, our heirs, executors, and administrators, jointly and severally, by these presents.

Sealed with our seals and dated this 24th day of January in the year of our Lord One Thousand Nine Hundred and Twenty-nine.

WHEREAS, lately at a District Court of the United States for the Southern District of California, Southern Division in a suit depending in said Court, between Perkins Oil Well Cementing Company, Plaintiff and J. M. Owen and J. L. Bales, Defendants, a decree was rendered against the said Defendants and the said Defendant J. M. Owen having obtained from said Court an order allowing appeal to reverse the said decree in the aforesaid suit, and a citation directed to the said Perkins Oil Well Cementing Company citing and admonishing it to be and appear at a United States Circuit Court of Appeals for the Ninth Circuit, to be holden at San Francisco, in the State of California to answer said appeal.

Now, the condition of the above obligation is such, That if the said J. M. Owen shall prosecute said appeal to effect,

and answer all damages and costs if he fail to make his plea good, then the above obligation to be void; else to remain in full force and virtue.

J M Owen (Seal)
John McKeon (Seal)
S. L. Pugh (Seal)

Acknowledged before me the day and year first above written.

[Seal] Marguerite G. Burrows,
Notary Public in and for the County of Los Angeles, State of California.

UNITED STATES OF AMERICA)
) ss.
NORTHERN DISTRICT OF CALIFORNIA)

John McKeon and S. L. Pugh being duly sworn each for himself deposes and says that he is a resident and householder or a freeholder in said District, and is worth the sum of Seventeen Thousand Eight Hundred Fifty-three ($17,853.00) Dollars, exclusive of property exempt from execution, and over and above all debts and liabilities.

John McKeon
S L Pugh

Subscribed and sworn to before me, this 24th day of January, 1929.

[Seal] Marguerite G. Burrows,
Notary Public in and for the County of Los Angeles, State of California.

Examined and recommended for approval as provided in Rule 29.

WESTALL AND WALLACE,
By Joseph F Westall
Attorneys for Appellant.

I hereby approve the foregoing bond this 28th day of January, 1929.

Paul J McCormick
United States District Judge.

[Endorsed]: Filed Jan 28 1929 R. S. Zimmerman, Clerk By L J Cordes Deputy Clerk

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[TITLE OF COURT AND CAUSE.]

STIPULATION RE TRANSCRIPT OF RECORD ON APPEALS AND EXHIBITS.

The above named defendants having taken appeals in this suit to the United States Circuit Court of Appeals for the Ninth Circuit from the Interlocutory Decree entered on the 23rd day of January, 1928, and from the Final Decree entered January 17, 1929.

IT IS HEREBY STIPULATED AND AGREED SUBJECT TO THE APPROVAL OF THE COURT,

That a single transcript on the two appeals above mentioned shall be prepared, which shall include a true and correct copy of each of the following papers, documents, orders and proceedings entered and on file in the above entitled cause:

1. Bill of Complaint filed June 29, 1923;
2. Answer of defendant filed June 16, 1923;

3. Stipulation for use of uncertified copies of patents filed August 13, 1923;

4. Plaintiff's interrogatories filed August 22, 1923;

5. Order granting Preliminary Injunction, entered August 23, 1923;

6. Opinion on granting Preliminary Injunction, filed August 23, 1923;

7. Defendant's answers to plaintiff's Interrogatories filed October 26, 1923;

8. Notice of motion that defendant be adjudged in contempt and affidavits and authorities in support thereof, filed November 1, 1923;

9. Statement of evidence by defendant re: contempt, filed November 13, 1923;

10. Notice of and plaintiff's rebuttal affidavits, filed December 1, 1923;

11. Notice of and further evidence on contempt hearing filed December 3, 1923;

12. Notice of motion for leave to amend answer and amendment to answer, filed December 21, 1923;

13. Order allowing amendment to answer entered March 4, 1924;

14. Order granting leave to amend answer entered March 23, 1924;

15. Opinion re: contempt filed March 3, 1924;

16. Decree in contempt, entered March 3, 1924;

17. Master's report in contempt proceeding, filed March 15, 1924;

18. Decree supplemental to Decree adjudging defendant in contempt, filed March 22, 1924;

19. Statement of evidence, filed April 4, 1924;

20. Order granting leave to amend answer entered April 23, 1924;

21. Second amendment to answer, filed April 24, 1924;

22. Stipulation and order joining J. L. Bales as a party defendant, filed September 4, 1924;

23. Letters Patent in suit No. 1,011,484;

24. File wrapper and contents of patent in suit No. 1,011,484;

25. Plaintiff's Exhibit 15.

26. Final Decree of June 26, 1925, in case F-70 Equity, Perkins etc. vs. Wigle et al;

27. Report of Special Master Montgomery filed ~~March~~ April 10 1925 in case F-70-Equity, Perkins etc. vs. Wigle, et al;

28. Opinion of Judge McCormick dated January 18, 1928;

29. Order ruling on questions not heretofore ruled on, directing decree for complainant entered January 18, 1928;

30. Interlocutory Decree filed and entered January 23, 1928;

31. Petition for appeal filed February 16, 1928;

32. Assignments of error filed February 16, 1928;

33. Order allowing appeal entered February 16, 1928;

34. Bond on appeal filed February 18, 1928;

35. Notice of appeal, filed February 20, 1928;

36. Citation issued February 16, 1928, with return of service February 20, 1928;

37. Stipulated statements of evidence refiled with this Stipulation. (The first (2 volumes) originally filed or lodged in the Clerk's office March 14, 1928, and the second originally lodged or filed in the Clerk's office Feb-

ruary 27, 1929. both withdrawn for the purpose of corrections, March 19, 1929 and not refiled)

38. Copy of this Stipulation.

39. Stipulation and Order for withdrawal of statements of—evidence to make certain changes and corrections, dated—March 19, 1929;

40. Stipulation and Order withdrawing plaintiff's Exhibits 64, 65 and 66, dated March 18, 1929;

41. Order for accounting before Special Master entered April 30, 1928, (statement of evidence on accounting included above)

42. Defendants' objections to draft report of Special Master and notice of draft report.

43. Master's report on accounting filed December 20, 1928;

44. Defendants' schedules of account.

45. Exceptions of defendant to Special Master's report on accounting filed January 8, 1929;

46. Order disallowing exceptions to Master's report and confirming said report, entered January 14, 1929;

47. Final Decree entered January 17, 1929;

48. Petition for Appeal filed January 23, 1929;

49. Assignments of error filed January 23, 1929;

50. Citation on appeal with return of service filed January 25, 1929;

51. Bond on appeal and for Supersedeas, filed January 28, 1929;

52. A certificate under seal by the clerk of said court stating the cost of the record and by whom paid.

53. The names and addresses of parties to this appeal and their attorneys, Westall & Wallace (Joseph F. Westall and Ernest L. Wallace) 1105—Board of Trade Building.

Los Angeles, California, Solicitors and of counsel for defendants-appellants, J. M. Owen and J. L. Bales, both of Long Beach, California; and Frederick S. Lyon, Leonard S. Lyon and Henry S. Richmond, 708 National City Bank Building, Los Angeles, California, solicitors and of counsel for plaintiff-appellee, Perkins Oil Well Cementing Company, Los Angeles, California.

All of the above shall constitute the transcript of record of said cause on said two appeals, upon which record said appeals shall be heard and determined (except in so far as the immediately foregoing language may be qualified by the second paragraph of Equity Rule 76) which transcript shall be certified by the clerk of this court to the United States Circuit Court of Appeals for the Ninth Circuit.

That the transcript and supplemental transcript of Record on appeal No. 4275, Owen Appellant, vs. Perkins Oil Well Cementing Co. Appellee, being the record on appeal from the Order granting preliminary Injunction in this case may, so far as deemed pertinent by the Court on these appeals, be considered part of the Record hereof and may as such be referred to and quoted by counsel in brief or argument in the appeal proceedings contemplated by this Stipulation.

IT IS FURTHER STIPULATED AND AGREED SUBJECT TO THE APPROVAL OF THE COURT,

That the following exhibits introduced by both parties shall at least ten days prior to the hearing on these appeals, be transmitted by the Clerk of this court at the expense of defendants to the Clerk of the United States Circuit Court of Appeals for the Ninth Circuit at San Francisco

for use on said appeals. Said exhibits are as follows, to wit:

1. Plaintiff's Exhibit 1. Perkins' lower plug.
2. Plaintiff's Exhibit 2. Perkins' top plug.
3. Plaintiff's Exhibit 6. Owen plug, Exhibit A to the affidavit of Paul Paine.
4. Plaintiff's Exhibit 7. Decree in suit of Halliburton et al vs. Burrus et al. in the United States District Court for the Western District of Oklahoma.
5. Plaintiff's Exhibit 8. Reporter's transcript of proceedings in the suit of Halliburton et al vs. Burrus et al. in the United States District Court for the Western District of Oklahoma.
6. Plaintiff's Exhibit 9. Certified copies, Bill of Complaint, Answer, Transcript of Proceedings at hearing before Judge James C. Wilson, Order granting Injunction, Bond for injunction and final decree in suit entitled Halliburton Oil Well Cementing Co. et al vs. M. E. Inskeep, 195 in Equity in United States District Court for the Northern District of Texas, Amarillo Division.
7. Plaintiff's Exhibit 11. Copies of license contracts with witnesses who testified on behalf of defendants.
8. Plaintiff's Exhibit 12. List of persons, firms and corporations having licenses to use the method of patent in suit in Louisiana and Arkansas.
9. Plaintiff's Exhibit 13. Statement of wells cemented by Plaintiff in 1926.
10. Plaintiff's Exhibit 13-A. Statement of wells cemented by plaintiff in March 1910, to April 30, 1927.
11. Plaintiff's Exhibit 13-B. Statement of wells cemented by plaintiff in California.

12. Plaintiff's Exhibit 13-C. Statement of wells cemnted during 1926 by Perkins Oil Well Cementing Company.

13. Plaintiff's Exhibit 13-D. Statement of wells cemented by alliburton Oil Well Cementing Company in Mid-Continent Field.

14. Plaintiff's Exhibit 14. Inskeep Patent No. 1,443,-474.

15. Plaintiff's Exhibit 15. Prior art patents referred to in file wrapper of the Perkins and Double patent in suit.

16. Plaintiff's deposition Exhibit No. 1. Newspaper article in Shreveport "Times".

17. Plaintiff's deposition Exhibit No. 2, Log of well.

18. Plaintiff's deposition No. 3. Transcript of suit in the District Court of Caddo Parish, State of Louisiana, entitled McCann & Harper Drilling Co. vs. The Busch-Everett Co. No. 14,503.

19. Plaintiff's deposition Exhibit. "Map of Caddo Field."

20. Plaintiff's deposition Exhibit. "Specimen of Bird Field Reports."

21. Plaintiff's deposition Exhibit. "Bird Plat Book."

22. Plaintiff's deposition Exhibit. "Newspaper article produced by Bird."

23. Defendants' Exhibit "A". Letter from Halliburton to Westall and Wallace dated June 20, 1922.

24. Defendants' Exhibit E. Model of Inskeep Plug.

IT IS FURTHER STIPULATED AND AGREED SUBJECT TO THE APPROVAL OF THE COURT,

That the proper and true initials of the defendant Bales are J. L.; that in numerous of the documents in the record the initials of the defendant Bales have been mistakenly and inadvertently given as "H. O." In order to correct the record IT IS STIPULATED BY AND BETWEEN THE PARTIES HERETO that wherever the name "H. O." Bales" appears, as defendant, J. L. Bales is the person referred to and named, and that wherever required all proceedings herein shall be deemed corrected to specify J. L. Bales as defendant in lieu of H. O. Bales.

DATED this 26th day of June, 1929.

Frederick S. Lyon
Leonard S. Lyon
Henry S. Richmond
SOlicitors and of counsel for Plaintiff-Appellee.

Westall and Wallace
By Joseph F. Westall
Solicitors and of counsel for Defendants-Appellants.

IT IS SO ORDERED this 26th day of June, 1929.

Paul J. McCormick
DISTRICT JUDGE.

[Endorsed]: Filed Jun 26 1929 R. S. Zimmerman, Clerk By Edmund L. Smith Deputy Clerk.

I DO FURTHER CERTIFY that the amount paid for printing the foregoing record on appeal is $ and that said amount has been paid the printer by the appellant herein and a receipted bill is herewith enclosed, also that the fees of the Clerk for comparing, correcting and certifying the foregoing Record on Appeal amount to $..... and that said amount has been paid me by the appellant herein.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the Seal of the District Court of the United States of America, in and for the Southern district of California, Central Division, this..... day of August, in the year of Our Lord One Thousand Nine Hundred and Twenty-nine, and of our Independence the One Hundred and Fifty-fourth.

R. S. ZIMMERMAN,
Clerk of the District Court of the United States of America, in and for the Southern District of California.
By
Deputy.